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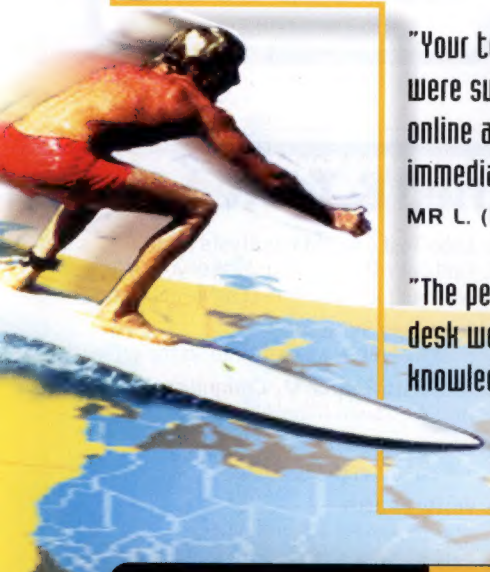

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The Net Needs You!
Could the US take over the Web? And what can we do about it?
Find out on page 36

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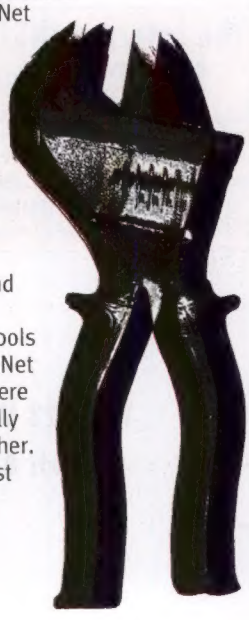

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The Net is changing dramatically, make sure you're involved in the process.

Thanks heavens it's only every five years that we have to endure politicians suddenly expressing a heartfelt interest in subjects which they had previously ignored. The Internet is well-known for drawing excited, if blank, looks from most UK politicians, which is worrying. However, it's particularly worrying for small businesses who tend to feel the immediate effects of government action and, unfortunately where the Internet is concerned, inaction.

A new DTI survey shows that small businesses see the Internet as a risky dive into the unknown, but after a trip round the world last month, it's clear to me that Internet take-up has just as much to do with infrastructure as it does with government support. In many countries where that support is present, small businesses are flourishing by making use of what the Net has to offer. Have a read of our report on *page 21*, and check out our new series for businesses planning to get onto the Net on *page 132*.

The one constant on my travels, aside from a huge pile of emails waiting for me at every stop (thanks everyone!), was the enthusiasm for using the Net. It didn't matter about age or location, whether it was for business or personal use, virtually everyone I talked to was aware of, or actively involved in, using the Net. This was clear on my travels, but it's in black and white too, with analysts estimating that anything up to 5 per cent of the world's gross domestic product (GDP) will be channelled through or be created by the Internet.

Now that's a lot of money, and as you'd expect, the big fish are closing in for their share. So, now, more than ever, you, the average Net user, has to get involved in the shaping of the future Net. But of course you want some information about who's doing what and what it means to you. So check out 'The Net Needs You!' on *page 36*, and be sure to tell us what you think of and want from the Net.

Mike Hales
Managing Editor

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If you've got a potential news story email the details to
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news

ONLINE SERVICES

MSN increases UK news content

MSN is ramping up its original UK content with the introduction of Decision 97, an election service that leads directly to the launch of MSN News.

Designed specifically for the Internet, MSN News is headed by ex-Daily Mail journalist Geoff Sutton. The service will initially focus on the general election through its Decision 97 channel. This will include daily election coverage from all over the UK, with special reports on marginal constituencies and profiles of voting patterns. Decision 97 will also include live polling on key issues and online debates. Split into six areas: news; battleground; basics; soapbox; pollzone and stop press; Decision 97 will interview key politicians on crucial issues including education and the NHS.

With its own channel on the Internet Explorer 4.0 browser, MSN News will expand after the election to include a full daily news service. The news channel will be joined by further UK-specific content on MSN throughout early summer. Already lined up are a film guide, Movies and Shakers, and a cricket service from Lords.

UK online news, MSN style.

These services will offer links to external sites, although links will be chosen to fit in with specific content in order not to overload users with information. MSN believes that the service will appeal to users who log onto the Internet for about 20 minutes per day. Agencies and freelancers will be used around the UK to provide regional news, and the service will move into dedicated sports channels and full-length documentaries later in the year.

http://news.uk.msn.com

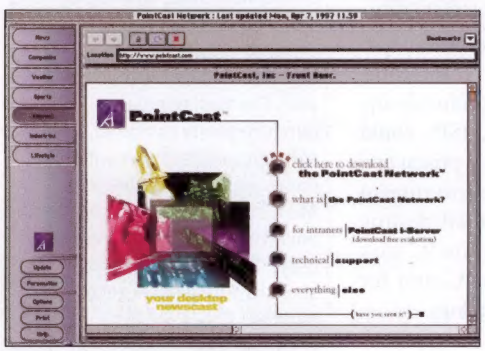
PUSH

Murdoch push for PointCast

Following last month's release of its' LineOne service in the UK, NewsCorp, owned by Rupert Murdoch, (www.newscorp.com) is now reported to be interested in buying PointCast (www.pointcast.com), the market-leading push technology firm.

Although PointCast has no market value, reports in the US indicate that its CEO Chris Hassett values the company at more than $500 million, far in excess of the value placed on the company by NewsCorp. With more than 1 million users, PointCast is by far and away the largest push vendor. Nevertheless, the growth of the push sector, whereby Web content is pushed to the user and presented as breaking news or even as a screensaver, remains unclear. Microsoft's backing for the Channel Definition format and its recent deals with PointCast rival BackWeb is an indication of the volatility of this sector.

Murdoch, who has had a mixed result with his online developments after its purchase of the Delphi proprietary service and a failed joint development with MCI, has publicly committed himself to using the Internet to further his media conglomerate. The Pointcast Network client is available from the Pointcast Web site.



PointCast leads a crowded Push market.

ONLINE SERVICES

AOL bids for CompuServe

AOL, the world's most popular online service, has launched an audacious bid to buy its' troubled competitor CompuServe, who has the dominant share of the European market.

Plagued by major job losses and consecutive quarterly losses in the US, CompuServe has been the subject of take-over rumours since late last year when it publicly decided to ditch its consumer WOW! service to concentrate on attracting business users. After the resignation of CEO Bob Massey, CompuServe and AOL opened discussions about a possible deal.

Although no decision has been reached at time of going to press, any possible merger could jeopardise the future of both companies in Europe. Though AOL is dominant in the US, the European market is led by CompuServe, with its CSi online service attracting about 800,000 European users. AOL claims to have about 150,000 UK users.

With new operations in Belgium, Switzerland and Austria, CompuServe 'seems to be maintaining its market lead,' according to its European managing director, Jerry Roest. Nevertheless, as its profits are subsumed into the larger, loss-making US operations, the buy-out talks place a question mark over its future.

Sceptics have questioned the wisdom of the deal, claiming that a merger would not solve AOL's acute network provision problems within the next six months. Nevertheless, H+R Block, CompuServe's owners, appear committed to relinquishing hold of the company. Neither AOL nor CompuServe has made any public statement about the proposed deal, said to be valued at $1.2bn. H+R Block has pledged to sell the service by mid-May.

www.compuserve.co.uk
www.aol.co.uk

NET POLITICS

Labour gets schools wired

The Labour Party is considering giving all school children over the age of nine their own email address in a bid to bring the UK's education system into the information age.

As part of an ongoing plan to increase the penetration of IT and the Internet into mainstream education, a Labour Party commissioned report also proposes giving teachers their own email, tax breaks to buy computers, and training in Internet skills.

Internet access for Labour's children.

The plans were announced following the report from the Pearson Group. The report concluded that IT in schools is 'primitive and not improving,' with nearly 50 per cent of desktop computers in primary schools more than five years old. It also found that some secondary schools,and nearly one third of primaries, have only one computer per class. About 60 per cent of teachers, meanwhile, were found to be lacking in the necessary IT skills.

The Labour Party's Education spokesman, David Blunkett, welcomed the announcement, promising to "develop a new national grid for learning, to ensure that schools and colleges have access to materials on the Internet relevant to the national curriculum. We will invite the private sector to bid for the production of accredited pages and a introduce a national award scheme for educational software."

The report's author, Dennis Stevenson said: "Giving children and teachers their own [email] identity will make the communication process one-to-one rather than school-to-one." The National Union of Teachers (NUT) gave the announcement a cautious welcome. "One of the main problems for teachers is the lack of in-service training. However, making email available would be tremendously useful," said an NUT spokesman.

PLATFORMS

New Net PC favours Win NT over Java

In a bid to counter the growing threat of low cost, Java-based Internet systems to them, Microsoft and Hewlett-Packard have unveiled their Network PC.

The Net PC will use smartcard authentication technology will let users to log on to an internal network at any smartcard-enabled PC. As part of the deal, HP will embrace the Windows NT platform and ditch its OpenMail offering.

The HP Net Vector PC series is aimed businesses using the Windows NT operating system. It is expected to start shipping in the second half of this year and will retail for about £600, far cheaper than Internet-ready PCs.

Microsoft CEO Bill Gates also claimed that Microsoft is paying as much attention to Java as it is to any other programming language, effectively ignoring claims by Sun Microsystems that Java will undermine Windows 95/NT's role on the corporate desktop.

www.microsoft.com
www.hp.com

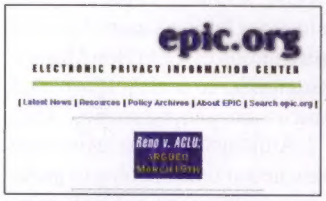
NET LAW

Censorship decision nears

The censorship on the Net debate could be decided once and for all if a court decision expected soon in the US makes IAPs liable for content placed on the Internet.

Online providers, publishers and free speech advocates are attempting to uphold a decision by the US' Supreme Court to prevent the initiation of the Communications Decency Act (CDA).

The CDA, a bill that aims to control the spread of online pornography and violence, was passed by US Congress in February 1996. Months later the Supreme Court declared it unconstitutional after a legal challenge that became known as the Reno vs. ACLU case. Following this decision, the US Department of Justice tabled an appeal, a decision on which is expected in June.



epic.org lists the bills opponents.

Under the law as passed, anyone who places indecent material on the Net, and so within reach of children, would be liable to prosecution. Civil liberties groups challenge the act as a breach of constitutional rights. "The CDA completely bans a vast amount of speech which is constitutionally protected for adults," says Bruce Ennis, a member of the coalition.

The verdict could be decisive as it could affect Internet companies the world over. If the court finds in favour of criminalising Internet providers, ISPs could face up to two years in prison or a £156,000 fine. "If the government prevails in this case, it will destroy the Internet as we know it," says Jerry Berman of the Center for Democracy & Technology.

http://www.epic.org/free_speech/cda/

Just in...

The Internic, the body responsible for the maintenance of domain names on the Internet, is to introduce new billing practices in a bid to make the whole area of domain naming more transparent. The system, run under license by Network Systems, will accept online payments, increase phone support levels and invoice for registrations within one week of receipt.
www.internic.net

AOL, Netscape, ABC and Starwave have launched ABC News.com, a rolling news service on the Internet. With international, business and technology news, the service will rely heavily on existing ABC news bureaus around the world. A special channel will be provided daily for AOL users.

Following the Austrian governments closure of a small Internet access provider after one of its users posted child pornography on the Internet, Austrian IAPs have demonstrated by temporarily taking down all Web access. For two hours, 85 Austrian IAPs voluntarily stopped access as a protest against their own government. The Austrian ISPA held that they should not be held responsible for individual actions.

London-based IAP Cerbernet is launching an access package that involves no call charges. Cerbernet Direct33 provides a 24-hour connection at 33.6Kbs using a standard modem. Prices start at £1,600.
www.cerbernet.co.uk/

Internet shopping will top the £1 billion mark this year according to research by NOP. As Net usage grows, some 12 per cent of worldwide Web users responded as having used their credit cards at least once, double that recorded for the previous year. The most popular purchases were computer software and hardware with books and CDs close behind. More than a third of people polled said they would consider using the Net to buy financial services during the next six months.
www.nop.com

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INDUSTRY

Apple under pressure

Larry Ellison, CEO of Oracle, has proposed buying out Apple, still reeling after laying off 4,100 staff in order to shave about $500 million off operating costs.

Ellison initially floated the idea on the Web. The proposed takeover would see Ellison gather a group of private investors, pool their money and make a takeover bid. To publicise the proposal, Ellison has asked for public feedback to be directed to savapple@us.oracle.com.

The proposed bid is said to take the form of a $1.2 billion cash offer plus a share option which would take the overall value of the bid up to $2.1 billion. However, Ellison has been quick to point out that his bid is independent of Oracle. To further Apple's woes, Ellison also proposed that he and Next CEO Steve Jobs boot out the current management and assume control of the ailing computer maker.

Apple's Amelio: Should he stay or go.

Apple CEO Gil Amelio has rebutted the proposal. He spelled out his plans to restructure Apple in his keynote address at Internet World in Los Angeles.

"Be assured that, far from jeopardising our commitment to Internet publishing, Apple's restructuring will allow us to broaden it."

www.apple.com

INFRASTRUCTURE

MAN-IX falls at the first step

The establishment of an Internet peering point in the North of England has served a fatal blow to MAN-IX, the Manchester Neutral Internet Exchange.

As revealed in last month's *Internet Magazine*, proposals to build MAN-IX could have undermined the hold that LINX, the London Internet peering point, has on the UK access market. However, the Manchester authorities have put the project under the jurisdiction of Manchester University Computing Centre (MUCC) and not MAN-IX.

"It would be problematic if there were seen to be more than two Manchester bids." Claimed Mike Kelly of the Computing Centre. The new point, to be known as MANAP, the Manchester Network Access Point, has the backing of half of the current LINX members. Its first supported IAP will be VBCnet. Although MANAP will not require its members to have their own connections to the US backbone as LINX does. "LINX will retain its representational and trade association roles," according to Kelly.

MANAP will let Northern IAPs reduce their network costs and it should see an increase the response times for Net users in the north. Keith Mitchell, LINX Chairman, commented: "The problem with the original MINX/MANIX proposals was that they combined running an exchange point with wholesaling long-distance and international Internet service. These two activities should not be take place within the same organisation. The MaNAP proposals resolve this conflict and have the full support of the LINX."

The MUCC expects MaNAP to make about £100,000 in its first year of operations.

www.mcc.ac.uk

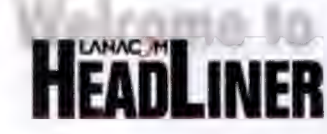
PUSH

Lanacom pushes into the UK

The expansion of push technology outfit Lanacom into the UK brings with it the promise of more European-specific content to Web-based channels.

The Lanacom service is centred round HeadLiner, its Push technology product that contains more than 400 channels of content. It allows users to choose content and then presents it in a number of formats. Although push technology is still in its infancy in the UK, Lanacom already boasts such online luminaries as the Electronic Telegraph, BBC Television and MSN's Decision 97 election service as channels.

Users can choose how to receive the content. The Ticker interface provides content in a small scrolling news bar, while the News Title option puts headline information across the title bar of an active application or screen-saver. Headliner also includes alert management features so the user is told whenever a specified term appears in any content. It can also be used to alert when a stock price rises or falls over a set figure. As Headliner only presents key information from articles it isn't bandwidth intensive.



Headliner creates unique Web channels.

Users can create their own channels with the Lanacom Content Agent Wizard. Versions of the HeadLiner client for Windows 3.1 and 95 can be downloaded from

www.lanacom.com.

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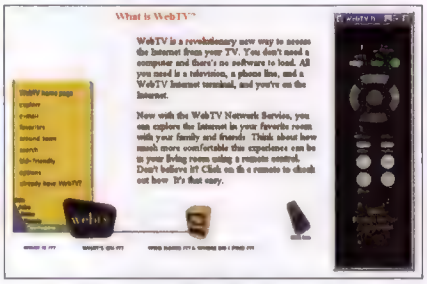
INDUSTRY

Microsoft to buy WebTV

Microsoft has further strengthened its position in the Internet market and development of its consumer Internet services with a bid to buyout WebTV Networks.

The bid, reported to be worth more than £300 million, is part of Microsoft's efforts to bring Windows to the home. It hopes to combine parts of its Internet platform tools, including its CE platform for handheld computers, along with its existing digital television technology.

WebTV Networks make set-top boxes that connect existing TVs with the Internet via the telephone. The WebTV Network specification has been widely licensed to hardware manufacturers. Despite not yet breaking out of the US market in any significant numbers, WebTV Network's ability let the user purchase across the Internet is expected to increase its user base dramatically with the expected onset of mass-market consumer Internet shopping.



The multi-million dollar bid confirms Microsoft's commitment to interactive TV.

Microsoft hopes to see the WebTV platform provide TV channels, Internet channels and email on home devices. Microsoft will conclude the deal later in 1997, offering the WebTV networks management team a package of shares as opposed to cash. Ironically, one of WebTV Networks backers is Microsoft co-founder Paul Allen.

www.microsoft.com
www.webtv.net

HTML

Dynamic HTML on the way

As part of its quest to 'embrace and extend' the Net, Microsoft has submitted advances in HTML and push technology to the Internet standards body, the World Wide Web Consortium. (W3C).

Microsoft's submission of Dynamic HTML promises to allow Web developers and designers create rich multimedia content using existing tools. For end-users, the take-up of Dynamic HTML could mean fewer unique page downloads.

Because it treats the underlying HTML as distinct objects, dynamic HTML lets users alter one part of a Web page without prompting their browser to return to the server for another Web page as currently happens. Dynamic HTML is included in the Microsoft Internet Explorer 4.0 browser as well as Windows 95 and NT.

In an attempt to bring push technology companies under one standard, Microsoft has submitted its Channel Definition Format (CDF) to the W3C. Already implemented in its IE 4.0 browser, CDF lets any broadcast client like PointCast or BackWeb access channels of any content on Web sites supporting CDF. CDF will enable content providers to supply articles in one format that can be read by millions of push clients already in use. AOL are one of many online content companies to already support CDF.

www.microsoft.com/standards/cdf.htm

NET COMMUNICATIONS

Listen to Email with JFAX

JFAX Personal Telecom is to launch its JFAX Operator service which will let users access email over the telephone. "Currently you collect messages by email. JFAX Operator will let you access messages from any Web browser," said JFAX President and founder Jaye Muller. "Part two of that service will be access to the same information via the telephone and an audio smartcard," said Muller.

However, the JFAX service may well be eclipsed by a number of new products and services on the way. One UK company is planning to launch a service which will allow users to collect any form of communication — email, fax, voicemail etc. — using any technology they have available. More in *Internet Magazine* next month.

Email over the phone, courtesy of JFAX's Jaye Muller.

The JFAX network includes 22 cities at present. A further 22 cities are to be added and JFAX is also working with WebTV to offer a JFAX number with WebTV, so users can use the TV not only for email and Net access, but also as an answering machine and a fax machine.

"We're talking to all the big online providers as well as the ISPs to offer JFAX as an option on their account," said Muller. One of the first deals for JFAX is likely to be with Eudora.

www.jfax.com

Just in...

The Web has slipped past the million sites mark according to a Netcraft Web Server Survey published during April. The total number on 3 April was the grand figure of 1,002,612 sites.

Three staff have been sacked and 12 others disciplined at troubled securities company NatWest Markets for distributing pornography via the internal email system. The perpetrators were caught after management noticed a large increase in email activity and corporate access provider Mercury Communications investigated.

Shares in the Oxford-based Internet Bookshop — which recently became the world's first company to undertake an online floatation of equity — was oversubscribed by five times. On the first day of trading shares doubled in value to 200 pence before settling down to a level of 185 pence per share. In the wake of the announcement a US-based online bookstore Amazon.com has announced its plans to go public also.

www.bookshop.co.uk
www.amazon.com

The majority of domestic fixed-line home phone users would be better off switching from BT according to a report from the Consumer's Association. An analysis of telephone pricing revealed that, despite discount schemes, BT proved the most expensive option compared to cable operators who proved to be about 20 per cent cheaper.

www.which.net

The Bank of Ireland has become the first European bank to commit to a May start date for Secure Electronic Transaction (SET) payments. The SET international standard currently under development by Visa International, MasterCard and other industry leaders to facilitate secure electronic card transactions via the Internet. The Bank of Ireland forms part of pilot scheme of 38 banks throughout Europe who will implement the SET specification according to Visa's Secure Electronic Commerce programme.

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NET ACCESS

Zoo's global Net access

UK access provider Zoo Internet has announced a global roaming service offering local call access in more than 150 countries and 1,000 locations.

The service is made available through a partnership with i-Pass Alliance and makes Zoo the first UK-based IAP to offer the service. By downloading free software from Zoo's Web site, subscribers will be given local points of presence (POPs) through the networks of other Alliance IAPs around the world.

"The process is in many ways similar to the cellular phone model where customers of cellular services are able to use other cellular providers when they leave their service area," explains Zoo's Managing Director, Peter Marino.

The move is aimed squarely at Zoo's small- and medium-size business users. As Marino explains: "Our priorities are convenience and reliability to our customers and this global network offers Zoo subscribers secure, convenient, low-cost Internet access. The [i-Pass] Alliance also operates multiple servers located in key geographical locations and this means there are always multiple servers to act as backups."

i-Pass is an independent organisation which provides the infrastructure for global IAPs to offer roaming for their subscribers. The i-Pass alliance is made up of 1,006 POPs around the world with more than half that number in the US, 126 in Asia, 188 in Europe, 36 in Latin America and 84 spread around the remainder of the world.

www.zoo.co.uk
www.ipass.com/accesspoints.html

SECURITY

New encryption law nears

The US Congress is considering a proposal from its own Department of Commerce that could open up the Internet for a new wave of global encryption and security products.

The bill would allow domestic users of the Internet to choose the strength of encryption product. In spite of lobbying from European organisations and even some of its own departments, the US government has maintained export restrictions on encryption products., effectively hindering the development of secure services.

William Reinsch of the US Department of Commerce told a meeting of cryptography experts that the new proposals would include criminal penalties for the misuse of encryption keys, and software to decode encrypted data.

A new encryption policy for the UK?

The moves have been welcomed in the UK, where the DTI has placed a working document online. The paper, licensing of trusted third parties for the provision of encrypted services, is aimed at providing a framework for key licence holders. David Hendon, director of technical policy at the DTI, stressed that encryption should be in the realm of the private sector. "Control of the use of encryption is a non-starter," he added.

www.dti.gov.uk

NET TELEPHONY

Net phones take a step up

A UK Internet developer is pioneering the development of Internet telephony with its release of its callme button, a link on a Web page that calls users back if they leave their telephone number.

The software, which can be embedded into any Web page, calls users back either immediately or after a set period. The system can call overseas numbers so long as the international code is entered. Using a computer telephony integration (CTI) server, a callme button can connect the Web user to an individual or a pre-recorded message. Unsurprisingly, the most popular use of the software so far has been to link customers with sales and support desks.

Callme buttons bring telephone call-return to Web pages.

As the end-user does not pay for calls received, the system allows Web sites without a commerce server to reach a target audience cheaply. Callme is currently available without the one-off start-up charge for the first 5,000 trial users. In the UK, call charges passed on to Web sites using buttons start at 7.5p per minute. Calls to cellular networks rise to 35p per minute.

www.callme.co.uk

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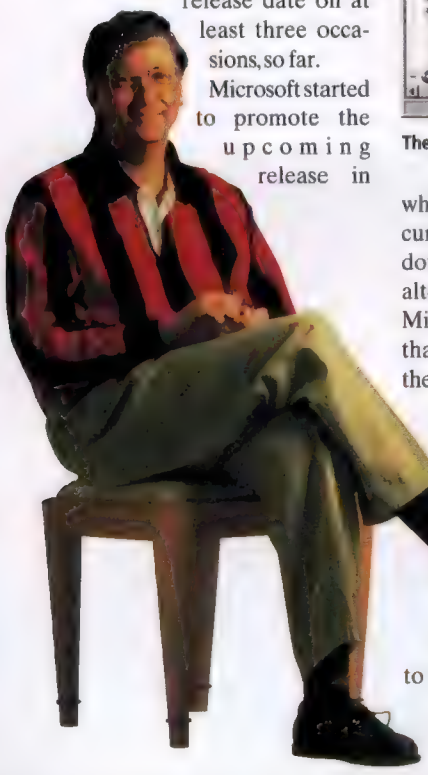
BROWSERS

Has Bill got the browser blues?

As Microsoft Internet Explorer 4.0 makes its long awaited debut on the Web, Microsoft's strategy to make the Internet central to all its products is experiencing a little local difficulty. Mike Bracken takes a look at how Microsoft's rivals are trying play down its release.

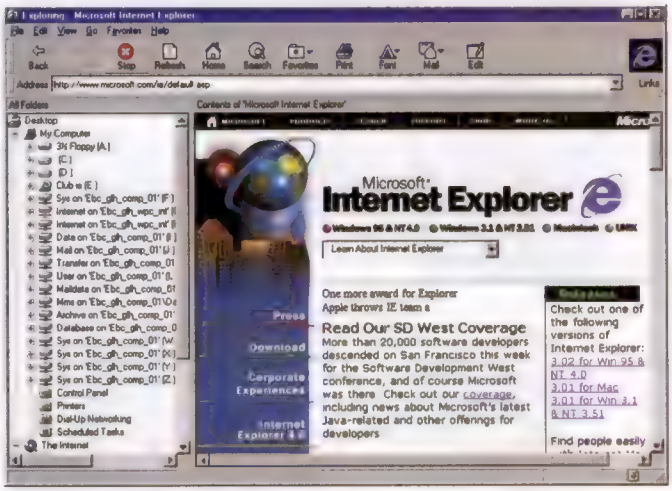
Microsoft has released the beta version of its Internet Explorer 4.0 browser. Heralding the age of the Active Desktop, IE 4.0 is likely to establish Microsoft's grip on the Internet market, yet its introduction has been surrounded by controversy.

Despite the product's release, the past few months have been anything but easy for the team from Redmond. The first noises started around the turn of the year when Microsoft announced that it would delay the beta release of IE 4.0 and accommodate some of the functionality in IE 5.0 that was being developed concurrently. Since then, it appears that Microsoft's Internet strategy has been plagued by bugs and security issues. The direct result has been that IE 4.0 has missed its release date on at least three occasions, so far.



Microsoft started to promote the upcoming release in late February, when Netscape was busy making its Communicator package open to the public. Scheduled to be released on 31 March, IE 4.0 was then delayed after a bug was found involving shortcuts in NT. This, in turn, increased hackers interest in the browser, and two more potentially damaging flaws were exposed which could, in exceptional circumstances, let applications downloaded with the browser alter files on a PCs hard drive. Microsoft then posted a bug fix that was then shown to not solve the problems completely.

Although this continuous round of flaws and fixes is part of many companies operational procedures – Netscape posts up beta software and offers a bounty for users who bring flaws to its attention – this last month undoubtedly caused a headache for Microsoft. With its rivals pushing Java as an alternative to the desktop, Microsoft appeared to have been hamstrung by flaws in its core product. Unlike other Internet companies though, Microsoft has to pay a lot of attention to security, quite simply because it has a lot to keep secure.



The Active Desktop will integrate the Internet into Windows.

The company knows that if it is to merge its Internet browser with its applications and operating system, then it has to protect users existing files. This means there's a lot of ground to cover when it comes to security testing.

Some unusual steps

Despite the company's dissembling attitude towards criticism of the security issue, the delay of IE 4.0 seemed to be causing some headaches. So much so that Microsoft took the unusual steps of releasing a point version to IE 3.0 and issuing an open letter regarding security on its Web site. To put this in perspective, point upgrades are issued ceaselessly on the Web, and Microsoft is certainly not the last company to counter criticism by publishing open letters on its Web site. As Brad Silverberg, a senior Vice-President at Microsoft, put it in the letter: 'Security is not a problem that can be addressed in a vacuum; it is an industry challenge.'

What has really given Microsoft a problem is that the release of the product coincided with two events, only one of which is directly related to IE 4.0. The first was last month's JavaOne development conference, where Sun, Netscape and other Java backers pushed the Java creed as never before. Given the anti-Microsoft climate that pervaded this meeting, Silverberg's apology was never likely to get a considered response.

Waiting for Memphis

However, worse was to follow for Microsoft. Memphis, the codename for the next generation of the Windows operating system, would be delayed until after the Christmas market. The financial markets reacted by wiping millions from the company's valuation.

And yet the release of IE 4.0 should calm these concerns. Microsoft is still set fair to release the full version by mid-summer. The download, at 12Mb, is sizable, and it requires a mighty 50Mb hard disk space. On the good side, for a beta product, it is robust, and in our testing we found it very reliable. Despite a few possible bugs in the password handling and file naming, the beta indicates that IE 4.0 is close to being the final product. Developers are certain that IE 4.0 is a crucial release. Nick Corston of leading design house Arawak described it as marking 'the consumerisation of the Web.'

It may well be that in a few months time, when Microsoft has the lion's share of the consumer browser market, that we will wonder why there was so much concern.

Look for a full review in the June issue. Download the beta from: **www.microsoft.com/ie/**

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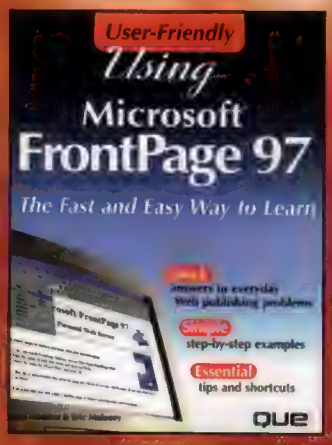

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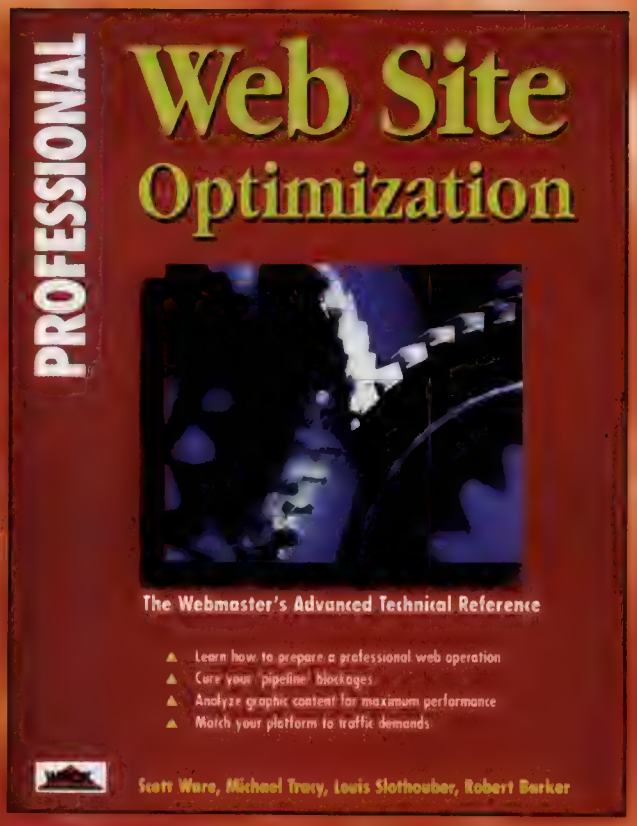

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Anoraknophobia!

Research carried out by the DTI points to a fear of IT in small businesses in the UK which may be crippling their competitiveness. However, David Atkinson finds that finance and the available infrastructure are factors as well.

Anoraknophobia – the fear of IT– is threatening to undermine the competitiveness of small UK businesses, according to new research by the Department of Trade and Industry (DTI).

The study, commissioned by the DTI, and compiled during February 1997 by NOP and Spectrum Strategic Consultants as part of the government's Information Society Initiative, Programme for Business, was designed to assess levels of IT usage as well as the attitude towards new media at work.

Its main conclusion was that smaller firms – those with less than 10 employees – are most at risk. They tend to have lower investment in training, which reflects a general lack of understanding of how to implement technology practically. So, although two thirds of UK companies consider IT an important part of their business, understanding how to implement it remains a major barrier to wider usage.

"Companies are wrong not to see these technologies as important," said UK Science & Technology Minister, Ian Taylor. "The survey clearly shows that computers now play an important role in business life at all levels."

"People are scared of the unknown," says Mark Pettit, accounts manager at IAP BusinessNet which provides leased line and dial-up access to business users. "They don't know how to use it and so don't realise its potential," he says. "The small- and medium-size businesses I've seen are really interested in the Net, but fear moving forward."

The survey found that companies do see potential, beyond email and information gathering, but the development of Web sites or intranets remains at a fairly experimental stage. But is this indicative of a slower uptake rate in the UK than in the US?

"If we define 'anoraknophobia' as fear of the PC then yes, it does exist among people who only have experience of traditional working practices," says Sarah Bayles, senior policy advisor to the CBI's technology group. "A lot of staff over a certain age don't have the necessary skill set. As such, their resistance to using IT can have a detrimental effect on management strategy."

- One in four British companies is connected to the Internet
- One in six has a Web site
- 90 per cent use computers at work
- 53 per cent use CD-ROM
- 41 per cent use email

Some UK companies are working independently to address the situation. According to Paul Butler, director of IT training company Peritas, many businesses face the problem because of a lack of resources.

"We'd like to see more commitment from government to put a low-cost Internet infrastructure in place for UK businesses. For small companies the costs involved are large. We'd like to see IAPs providing a low-cost backbone supplemented by government grants."

Some UK industry watchers are keen to point out that technophobia is only one of many potential contributing factors to the success of UK businesses, and an all round awareness drive would do British industry no harm at all.

"At this stage we're standing at the edge of a precipice," says Pettit. "Within a year people we'll understand how to apply the Net. Then it will really take off."

www.isi.gov.uk
www.business.net.co.uk

Is the UK afraid of IT?

Jennifer Iles, Principal Lecturer in Business Information Management at the University of Westminster, analyses the findings in the DTI's report.

The term 'anoraknophobia' has immediate appeal, but it doesn't bear close scrutiny. If we need a term to describe fear of IT, then let's stick with 'technophobia' even if it's less attention-grabbing. This is not a nation of technophobes, but we do reject technology when it makes our lives more complex.

The findings of the DTI survey have been interpreted as suggesting that technophobia results in smaller firms failing to recognise the contribution that IT could make to their competitiveness. However, the use of IT in small businesses is hugely complex. There are many different factors that can contribute to a small company making a sub-optimal use of the available technology. These include inappropriate functionality, poor user-interface design and inadequately planned implementation, especially a lack of training.

In our own research, which included interviews with managers in many different types of small business, we found a high level of satisfaction with the IT currently used, no lack of awareness of the level of competitors' use of IT, and a desire to expand use of IT – inhibited principally by the costs involved. When asked what systems respondents would like to implement if money were no object, communications links, and the Internet in particular, were those most frequently cited.

www.wmin.ac.uk
The Westminster Hypermedia Research Centre is at www.hrc.wmin.ac.uk email hrc@hrc.wmin.ac.uk

CENSORSHIP

Net censorship: The case for and against

In the aftermath of last month's Forum on Policing the Internet, Internet Magazine asks Peter Dawe to present the case for censorship and Chris Ellison to defend the freedom of the Net.

As the Internet censorship debate rages, we brought together the two sides of the argument by email. In the red corner, Peter Dawe, entrepreneur and founder of the Internet Safety Watch group, and in the blue corner, Chris Ellison, campaigner for the Campaign For Internet freedom. Now you decide.

To: davida@computing.emap.co.uk
From: *Peter Dawe*
Date: *Mon, 03 Mar 97 19:43:53 GMT*
Censorship is a political necessity. If Internet Watch hadn't acted when it did, then other, probably more extreme, bodies would have acted and implemented a more oppressive regime. We at Internet Watch are trying to tread a fine line between what's necessary to ensure no further action by the politicians while still making sure that the Internet is accessible by everybody and over wide subject areas.

One of the ways we keep the politicians happy is to ensure that what we set out to do we do effectively. Because of the 'no national boundaries' nature of the Internet we must work with the equivalent bodies in other countries. In particular, we have to nail those who act illegally on the Internet. The conference produced not only a consensus on the need for international co-operation but has also acted as a catalyst for co-operation.

Date: *Thu, 13 Mar 1997*
To: peter@dial.pipex.com
From: censorship@www.junius.co.uk
The conference illustrated how widespread the view is that we all need to be censored for our own protection. Even those who profess to be against censorship now advocate it. Thus bodies like Internet Watch can censor material, while claiming they seek to ensure wide access. The only way to guarantee the widest possible access is to argue against all Net censorship. Why should we bow down to the views of politicians?

Setting up a new regulatory body is not an act of opposition to censorship, but an implementation of it. Members of Internet Watch are not elected; the criteria by which they judge material is not publicly agreed; their actions are not democratically accountable, and there's no redress. Unlike the British Board of Film Classification they're not legally obliged to reveal details of material they want to censor. Now what could be more 'oppressive'?

The Campaign For Internet Freedom at www.easynet.co.uk/cam/censorship/

The Internet Safety Watch Foundation at www.internetwatch.org.uk

To: censorship@www.junius.co.uk
Reply-To: peter@dial.pipex.com
Date: *Thu, 13 Mar 97 20:25:05 GMT*
This is a gross misrepresentation of what Internet Watch is and does. Internet Watch has no power whatsoever to enforce its recommendations. If you want to publish illegal material you still can, but you should be prepared to face the consequences.

Internet Watch advises IAPs when material, which might result in a successful prosecution under UK law, is present. It also attempts to help the police to trace the author. The Internet Watch method is innovative, but unfortunately often misunderstood.

Date: *Fri, 21 Mar 1997 01:28:16*
To: *David Atkinson*
From: chris@www.junius.co.uk
The realities of freedom of speech are that you may hear or see things that you don't like. But people are quite capable of dealing with this. Many of us open the newspaper every day and see ideas and images that disturb us. But we don't need a special Newspaper Watch Foundation to protect us. Likewise, we don't need an Internet Watch.

It's not necessary to choose between the rights of children and the right to free speech. There's no physical child abuse on the Net, therefore there's no contradiction in upholding the right to free speech. The only rights of children that are under threat on the Net are their rights to free speech when they grow up.

The function of Internet Watch is clear. It's at the cutting edge of censorship – where others have failed. It is indeed an unusual and innovative approach to censorship. It plays directly upon contemporary doubts and fears about the Net for its existence.

Internet Watch's proposals for regulatory technology will reveal a 'Cyber Reich' hiding behind their open access exterior. Those who want to make up their own minds about what they read should prepare for the consequences and fight back.

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The Man Who Would Be King

Philip Crawford, Managing Director, Oracle Corporation UK and Ireland

Crawford could be the man advising the government on how to handle the Internet in the next millennium. He'd also like to lead us into the information age. Will David Atkinson follow?

Everyone's a bloody pundit these days. First *Chat Magazine* pontificates on the feminine appeal of the immaculately coiffeured barnet of the Labour leader. Next our own Spice Girls deliver a pre-millennial, post-Thatcherite, girl-powered endorsement of John Major – the man they want, they really, really want. And now, a Brummie with a penchant for baltis, beer and Aston Villa Football Club is putting his two penn'orth in.

Except, unlike your average politician or swingometer-swaying commentator, Philip Crawford is the kind of man who can make people sit up and take notice.

"Philip gets very passionate about things," says Nick Barley, Marketing Director for Oracle UK & Ireland and Crawford's right-hand man. "He's a leader and a figurehead; very charismatic, and very good at conveying his enthusiasm.

"He can also be very frustrating," Barley adds. "Persuading him to do something he's not interested in can be like pushing a dead whale up a beach."

He can have a short temper with people who don't interest him, agrees Brian Gunn, Chief Executive at Bull Benelux, who worked with Crawford at Bull for three years. "I wouldn't like to cross Philip. He's quite a forgiving person but he'd get his revenge if you did something to really annoy him."

Now, as election fever grips the nation, this boy from Redditch with a taste for the good life has found himself a new, more evangelical role. His day job is overseeing the strategic direction and growth of Oracle's IT and consultancy operation in the UK. But he's also been integral in the launch of an IT manifesto, aimed at forcing the hand of the vote-hungry campaigning parties. He's put himself forward as the UK spokesperson for the Internet.

But why him? George McNeil, senior executive vice-president Bull Worldwide Group, who employed Crawford earlier in his career, has an idea: "I hired him because I was looking for a natural leader, someone who can take the bigger picture and not get bogged down in trivia," he explains. "At the interview he was very sure of himself, very opinionated about how to run an organisation, and he wasn't afraid to look me in the eye."

The morning before we meet, Crawford is on spirited form at the IT manifesto's launch. A flourish of flashing smiles, silver cuff-links and animated gestures, he presents his case passionately, lapsing into snatches of a West Midlands accent in his fervour. Later, face-to-face, he maintains the animated persona, writhing in his seat, almost gasping for breath in the race to get the words out – like Ken-Dodd-meets-Patrick-Mower on an amphetamine binge. Avuncular and of more expanded girth than his podium persona, he still nearly knocks me off my chair with his unbridled enthusiasm.

"There's quite a void within UK political parties with regards to the Internet," explains Nick Barley. "There's no charismatic IT industry spokesman in the UK but I'm sure Philip feels he could take that role on. It's about time the UK IT industry had a voice and Philip could provide it."

You described yourself this morning as 'a concerned UK citizen'. How passionately do you feel about this manifesto?

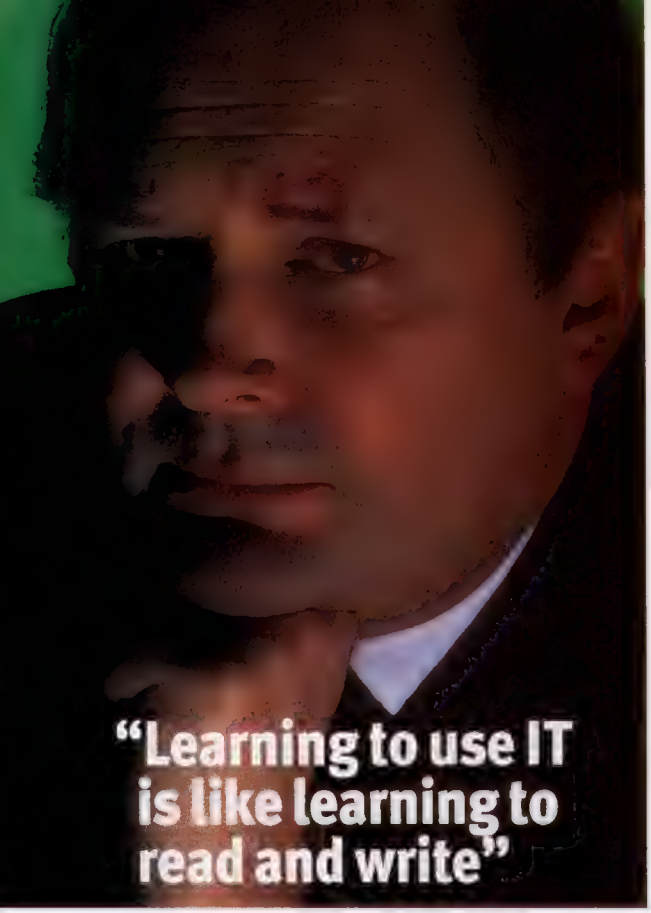
This issue has rested too long on the political back-burner – despite the fact that it touches everyone's life. Learning to use IT is like learning to read and write, so I'm very concerned that this issue has not got the profile it should have, given the social implications. I have children and I want my children to be in a country which gives them opportunities. I certainly tend to be passionate about the things I hold dear.

Do you see your role evolving into an Internet consultant to a future government?

The IT industry has lost out because there's no natural person to go to for

Philip Crawford, photographed in London, by Shaun Bloodworth

“The industry needs a powerful spokesman... that’s a role I’d be delighted to play”



"Learning to use IT is like learning to read and write"

comment. The industry needs a powerful spokesman. If I can raise the profile of IT, to talk to the government and help move things forward, then that's a role I'd be delighted to play. But, at the end of the day, this isn't about me. It's about something I believe in strongly, and if I can play a part in it, that's great.

This morning you set out a Dickensian view of life without IT. Do you feel UK political parties have failed to grasp the importance of technology?

I don't think they've grasped the significance of what this will mean in terms of competitiveness. We have no guarantees of continued success for UK plc.

Surely the average floating voter is more concerned with questions of education, tube privatisation and so on, which are vote-winners. Will political parties pay attention to IT when there's no electoral gain?

IT might not be a vote-winner but politicians want things which are not vote losers. I actually believe all the main parties are taking this seriously. It's probably because they're too scared not to take notice, but who cares as long as it achieves a result?

After the election – whichever party takes power – will things actually change for the IT world?

I don't expect a dramatic difference, although I do expect the profile of IT will increase. We're starting to see recognition that this is not just a bunch of techies moaning, but something with a much broader appeal and a much broader impact. Within the next five years this will become a significant issue as we see broad-band access to the Net, a major growth in electronic commerce and nearly everyone with some kind of Internet access.

Do you have any political ambitions yourself? If so, which party would you stand for?

None whatsoever. If I did, I'd be a Tory – as I believe in the entrepreneurial spirit – but not too right-wing. I think our days of confrontational style politics are numbered. I wish we could do something apolitical which contributes to the good of the country as a whole.

How will a change of government affect the future of Oracle?

It's vital to create an environment where growth is possible for any business. Right now, the UK has a growth economy. There's a bullish feel about the future and I wouldn't like to see that change. I'd like to see Oracle leading the information age. The advent of the Network Computing (NC) architecture, making information available to everyone, is imminent. Manufacturers will roll NCs out this year with volume shipments next year. By the year 2000 there will be millions of devices, many built into televisions. We must aim for this technology to be ubiquitous. If it's not you disenfranchise people.

One person described you as someone they wouldn't like to cross. How would you describe your leadership style?

I think I'm a charismatic leader; someone people will follow into the desert. Someone once said: "You're a nice guy but there's just enough menace there." I guess I'm pretty comfortable with myself. I don't lie awake at night worrying about how nasty I am. I'd hate to think I lead by fear but if people are disloyal then they're on unsafe ground. I don't surround myself with sycophants, I encourage people to argue with me. But I wouldn't want to cross me, either.

One of your former employers recounted a story where you let him down badly. You later made up for it and learned from your mistake. How would you now deal with someone who let you down?

I expect a lot from people but never more than I expect from myself. I took the rap for that incident. I felt like shit. Especially as he just said how disappointed he was. What's worse was that it came as a surprise and I don't like surprises. You shouldn't be surprised in business. Everyone makes mistakes and, as long as they learn from them, it's OK.

I'm told your ambition is to be a millionaire. How close are you to achieving that?

Not at all. I get a great deal of satisfaction seeing people I've coached being successful. No matter how much I earn, it's never enough. The most important thing to me is my kids. I would happily give up my job tomorrow for them. That's what puts it all into perspective.

Curriculum Vitae

June 1995	managing director, Oracle Corp. UK & Ireland
October 1993	managing director and CEO of Bull UK and Ireland
January 1993	managing director, Bull Services
1990	head of Bull's System Integration division
1988	director of special projects, Bull
1982	worked at the software house MSA (Management Science America) both in the US and UK

Behind his back...

Brian Gunn, Chief Executive Bull Benelux
"He's a visionary thinker and has a broad grasp of the whole picture. He's also the only man I know who can do a wheelie in a golf cart."

Nick Barley, Marketing Director Oracle UK and Ireland and Crawford's right-hand man
"I may be his right-hand man, but I'd never get in the same car as him. He's a maniac in his company car – a £90,000 Merc. He also gets very little sleep – partying till late at night and up early the next morning for a business meeting. I don't know where he gets his energy from."

George McNeil, senior executive Vice-President, Bull Worldwide Group
"He's capable and, I imagine, happy to take on the mantle of industry spokesman. He never shuns publicity. You don't need an old fart as a figurehead and he's one of the younger players. He can articulate not just what is happening now but also what will be happening in the year to come."

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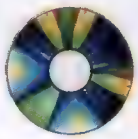

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Don't push me 'cause I'm close to the edge

Ever get the feeling you're being had? Garret Keogh pokes into the industry's euphoria surrounding Push technology and wonders if there are ulterior motives.

Push technology has been hailed as the most significant development since the birth of the Internet itself – but the ironic thing is behind it are the very companies once threatened by the Net.

In case you've been in a monastery for the past few months, Push technology means that information is delivered to the user based on a number of pre-defined criteria. Software such as Pointcast, Castanet and Backweb deliver that information straight to your desktop in the form of ticker tape windows or screensavers.

Microsoft and an alliance of traditional content providers and IT information companies are promoting this technology as an answer to all our prayers. It's not hard to see why. Their attempts to move existing brands to the Web have met with mixed success. Why compete on the Web with start-ups and new brands when you can tap into the general public's familiarity with existing media?

The fact is that Push technology, by delivering the content straight to the user, completes the Internet's transformation into a broadcast medium. And that suits both advertisers and content providers.

On the Web, a site such as CNET's News.com both looks better and offers more relevant content than sites from traditional media players. In the Push media world, you simply select the content service you want and we all know what brands are going to be chosen – those that users know from the print and broadcast worlds.

The major content providers find it difficult to do business on the Web so they're more eager to buy into a familiar concept. Advertisers would much rather deliver their ads to the right target group than place banners that sit unnoticed at the top of Web pages. Television and radio are proven advertisement mediums and you can see marketing executives' eyes light up as they're told that the Net is just like TV.

"Push technology will ensure that small-mindedness will be rewarded"

We all know that this is far from the truth. First, there is the tiny question of bandwidth. What's going to happen to already overcrowded systems when content is being pushed around the Net? Ask any network manager whose staff has installed Pointcast on their systems – things will slow down to a snail's pace (if they haven't already).

More importantly, the real benefits of the Net will be bypassed. The concepts of collaboration, personal publishing and discovering new sites, new brands and different viewpoints will be lost when the major brands start pushing their content at you.

It's likely that two distinct Internets will develop – one that acts as a broadcast medium and one where users post their home pages and interact with one another. It's easy to guess which will see the major investment and retain the brands that most consumers know and love.

The fact that the Internet doesn't quite work as effectively as it should doesn't mean the entire concept is flawed. Other ways to create advertising revenue streams on Web sites need to be explored. Improved bandwidth, more intelligent search engines, the implementation of true publishing standards and the development of new collaborative tools would make the Net a more attractive place to spend time and to do business on.

If I thought that the Push technology that delivered information to my desktop was going to make intelligent decisions based on my preferences then I wouldn't be worried. Sites such as Firefly already suggest music and artists I may not have heard and a similar approach would make Push technology more attractive. However, if you haven't selected the international news option or expressed an interest in Albania, how are you ever going to find out there's a war on there?

At the moment the Web gives you a range of opinions and information, just as a newspaper does. By limiting the choice and asking people to define which information they want delivered to them, advertisers will hit their target market. But who will be better off? Middle America already shows little interest in international affairs and Push technology will ensure that small-mindedness will be rewarded with a heap of new baseball scores every day.

I'm still unsatisfied with the Net as it is, but I find it a more interesting place to spend time than existing broadcast mediums.

Checking my lottery numbers is the most interaction that the TV has ever inspired in me and I fear that the new broadcast-based Net will be equally dull.

Garret Keogh is a freelance Internet journalist. Contact him at garret@dial.pipex.com

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Newsflash: The Net can go faster

The ceaseless demand for extra bandwidth is forcing hardware and network companies to offer some radical solutions. Paul Lavin finds that there is a solution to the great bandwidth bottleneck.

Do you lift your eyes to the heavens praying for relief from the Internet bandwidth quandary? The paltry amount of data that trickles in and out of your PC and modem (or ISDN terminal adapter if you're lucky) just isn't enough to satisfy most Net users today. And what about tomorrow?

Everyone wants snappy response-rich, multimedia Web pages with slick high-colour, high-definition graphics, animation, 3D virtual reality, CD-quality sound and hey, while we're at it, full motion video and Smell-O-Rama.

The expectations of Net users have been raised by a generation of TV viewers. TV looks like real life (often better), so why can't the Web deliver the same real-time experience? Not only are expectations high, but the numbers of expectant Net newbies are growing explosively.

These facts add up to dropped packets, infuriating delays, flat Web sites, loss of interactivity and the moans of disgruntled surfers.

There is light at the end of the tunnel though. Two technologies have come up in just the last few weeks that give me reason to believe that many of today's bandwidth problems can be solved. I'm not even talking about the X2 modem fiddle that may amaze some and disappoint many more. The really cool thing is that one of my speed solutions won't cost much.

Lately, I've been using a normal 33.6 UUNet dial-up connection to handle my Internet requests. The files and the Web pages I download arrive via a satellite dish sitting on my roof, pointing at a Hughes communication satellite with the prosaic name of EutelSat 2F3, hovering 38,000 kilometers above the equator.

"There are three technologies that make me believe today's bandwidth problems can be solved"

And this sucker flies! My ISDN Internet connection feels like a 300 baud modem in comparison. I've been running the system on a 200MHz PC and the combination really delivers.

On the other hand, a ton of technology in orbit can do nothing about slow servers or congested land lines. Surfing the US during peak time can still be stiflingly slow. Surprisingly though, the excellent Internet link to the satellite uplink facility in Germany does a better job than I would have believed. I've seen speeds as high as 40Kbps. But, of course, it doesn't speed up my uploads.

Alas, it's not always possible to bolt a satellite dish anywhere you want one, and then there's the cost. It's not the cost of the antenna or interface card (about £1,150) but the cost of downloaded megabytes that could take the speed of satellite Internet out of the reach of many.

As well as your normal Internet subscription, you have to pay £15 for 30Mb a month, or £52 a month gets you 130Mb. The big ouch comes if you go over those limits when it costs you, respectively, 95p or 83p per Mb. This is stupidly expensive for a one-way bandwidth boost. Fact of life: speed costs money on the Net.

On a more down-to-earth level, Intel is backing a CD technology that will make some Web sites faster. With an 'Infinite CD ROM', part of the Web site would be located on a CD-ROM in your local CD drive and only a small part of the site would come down the wire. This neat trick gives the illusion of huge amounts of bandwidth.

This technique is not exactly new – Microsoft has Net updates for many of its CDs, such as Encarta and Cinemania. The tools for creating these cross-media applications have been under development for a year now and Macromedia has been in the thick of it.

Of course, slow CD drives could be a major pain in the neck, but Western Digital is on top of that possible bottleneck. Its latest technology, called SDX, is set to emerge in new CD drives this summer and will decouple the speed of the drive from the speed of the software. The new SDX interface gives you hard disk-like speeds — which are lots faster than even the 12x drives you can get now — from any CD.

Whichever technology wins out, I don't see Internet bandwidth restrictions as a never-ending curse.

Paul Lavin is a consultant and journalist, writing on the Internet and related issues. He can be contacted at plavin@caversham.win-uk.net

mailbox

gailr@internet.emap.com

Servers hold back Web speed

It was interesting to read the article in the April issue about ways to boost your bandwidth. However, no-one mentions that the real limiting factor is server response time.

I spend a lot of time accessing university departments and this reveals why Britain's cash-strapped universities are in the third division of the Internet world. I find it quicker to access information from university Web sites in the USA, Europe, Australia and Japan than from sites in Britain. Surely this must be a result of investment in server quality, rather than anything to do with hardware flow control, 56Kbps modems or bandwidth?

Richard Holt

101464.2006@compuserve.com

Deputy editor, Mike Bracken replies: I'm afraid the answer is a definite maybe. It's true that UK investment in the Internet for universities lags behind the US, but Janet and SuperJanet, the joint academic networks, should provide adequate connection speeds. As for the server investment, it's really up to the individual institution that runs the server. However, unless we take a political decision to invest in our networks, server delays are inevitable.

Web design challenge

One feature which generated a lot of response was last month's Web design challenge. Here's what you though of the sites. Check them out at: www.mariecurie.dircon.co.uk

As a Web designer I just couldn't resist it. C'mon, Gail, the port80 site was easily the best. Nice sexy design, well thought out and executed graphics and easy navigation. It would have been the cheapest as well, for Pete's sake!

Kostas Jarvis

kostasjarvis@mail.bogo.co.uk

Those Web Challenge designs:
Pictured left is the port80 entry.
Directly above that is the Domino offering
Above and to the right is the Sm@rtNet site.

My browser window is set to approx 640x480 on a 800x600 screen. Both port80 and Domino merged well as I maximised and restored, Sm@rtNet's superfluous use of frames was betrayed and became an annoyance.

I thought Domino's home page was well thought out and designed. port80 could have chosen a more interesting background and text combination than deep orange and olive. But I loved its sliding block puzzle.

Sm@rtNet produced some nice background images, Domino's were more portfolioesque, and port80's had a scrapbook appeal.

Frank Wognum

the_office@airflow.demon.co.uk

Star Letter

Ever since I made the mistake of buying a US Robotics (USR) modem before Christmas, I've watched USR elbowing its way into the X2 marketplace with increasing alarm. Your article on the subject only confirmed my fears that USR plans to establish itself as the only high-speed standard player.

We would have little to fear if USR were producing first class equipment. My own experience would indicate otherwise. The 33.6Kbps Sportster I bought was a disaster. Neither voice mail nor Internet connections worked. The tiny instruction leaflet failed to mention that some features – such as recording a voice mail message – were, in fact, impossible.

When I used my old modem to log onto the American-run USR forum in CompuServe I saw a bleak landscape of unanswered messages, complaints, and stories from customers who had taken their USR modems back to the store. It didn't bode well, and after failing in every attempt to get a reliable Internet connection, I too made my way back to the store. Later, I noticed the number of Sportster boxes labelled 'returned goods'.

Pipex is my Internet provider, and it's already announced support for the USR standard. What's the future to hold for me, and the many like me, who want the faster speeds, but are not willing to pay the price in unreliability?

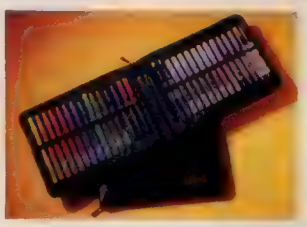
Tricia Tillin

semaphore@dial.pipex.com

A spokesman for US Robotics replies: We were naturally concerned to read of your reader's problem with one of our modems and would be pleased to remedy any fault or replace the unit under our five-year warranty. We must, however, explain our position on 56Kbps modem standards.

US Robotics x2 is not the only 56Kbps technology on the market. In fact, there's no international standard for 56kbps yet. We introduced our technology to fulfil the demand for high-speed Internet downloads among users. Also, we feel it's not fair to ask consumers to wait while the standards bodies make their deliberations on a technology.

However, US Robotics is actively involved in the standards process. When an industry standard emerges, if we have to make modifications, we will take our customers to the standard by simple software upgrades.



● Tricia gets this month's star letter prize, a splendid set of Uni pens in an attractive leather presentation case. Every letter published also gets a pack of three, stylish, zesty bright Uni Eye 157 rollerballs. For more details visit: www.uni-pen.co.uk

Please include your name and address in any correspondence.

Having seen all three sites I think port 80 got a bum deal from your magazine. As a Web designer over here from the States, I think their entry was superior to Domino's, especially having read the brief you gave them.
Rob Saunders
rob_saunders@f7.hotmail.com

Graphics turned off shocker!

Last month's star letter in which Tony E expounded the virtues of browsing the Web with the graphics turned off created a bit of a stir among our readers. Printed below are some of the most contentious points of view.

I use the Web for different things at different times. Sometimes I'm searching for technical information. Other times I'm just playing around. When I'm in a hurry I switch the images off, and when I have time, I leave them on.

Web designers complain that people might be viewing their lovely pages in the wrong font or with images switched off. It's a strength of the Web that users can change the characteristics of pages in this way, not a weakness.

The only thing I wish is that browsers would make it easier to toggle these features.
Jon Peterson
jon@amxdigital.com

Surely one of the purposes of the Internet is to make available a wealth of information to everybody. However, as Web designers persist in making their pages more and more multimedia intensive, the cost of accessing the information becomes more prohibitive.

I believe users need a way of accessing the Net in the most economical way possible and it's the duty of the Web site designers to do this.
Dave Purdy
davep@sunnygardens.u-net.com

Almost all Web pages are designed around their graphics; they're fundamental to the overall ambience of the site. Just take a look at the Star Wars Clips in the Hollywood Online site (www.hollywood.com). Why watch TV in mono, and black and white, when it's broadcast in stereo and colour?
Richard Cobley
ricob@globalnet.co.uk

I often turn off graphics, sound and video. In my experience, most experienced Web users do this.

There's a place for graphics, video and a place for basic text pages. I do feel, however, that content in a lot of cases is sacrificed for flashy graphics, eye catching fonts, ActiveX, JavasScript and frames!

While these extras are nice to look at, the bandwidth and speed of most dial-up connections can't cope with the onslaught.

An idea, which hasn't yet crept into the browsers, is to add individual preferences for favourite/bookmarked sites.
Adrian Japp
ajapp@spectrumlabels.demon.co.uk

I totally agree with Tony E and can provide evidence to corroborate his theory. A month ago, I re-designed the home page of my site (www.videoshop.co.uk) and removed most of the graphics, leaving a simple, but colourful, frame with minimal graphics.

The immediate effect was that the hit count of those visitors who went beyond the home page, increased four-fold and my sales of video tapes doubled. The hit count to the home page remained much the same. Graphics on the home page really was the killer.

A good example of bad graphics practice, which unfortunately, I have to access regularly, is the MGM-UA video site (www. mgmua.com/mgmhv) which has over 150Kb of constantly changing graphics on the home page.
Brian Vallance
videoshop@enterprise.net

Gail Robinson replies: So there's only me, Richard and all the other lucky buggers with leased line Internet access at work that bother to surf with all the images turned on then? It is a bit of a sobering thought for all Web designers though! And Brian's experience of cutting down the graphics on the opening page is a salutary tale. Thanks for all the feedback on this issue, keep the letters rolling in.

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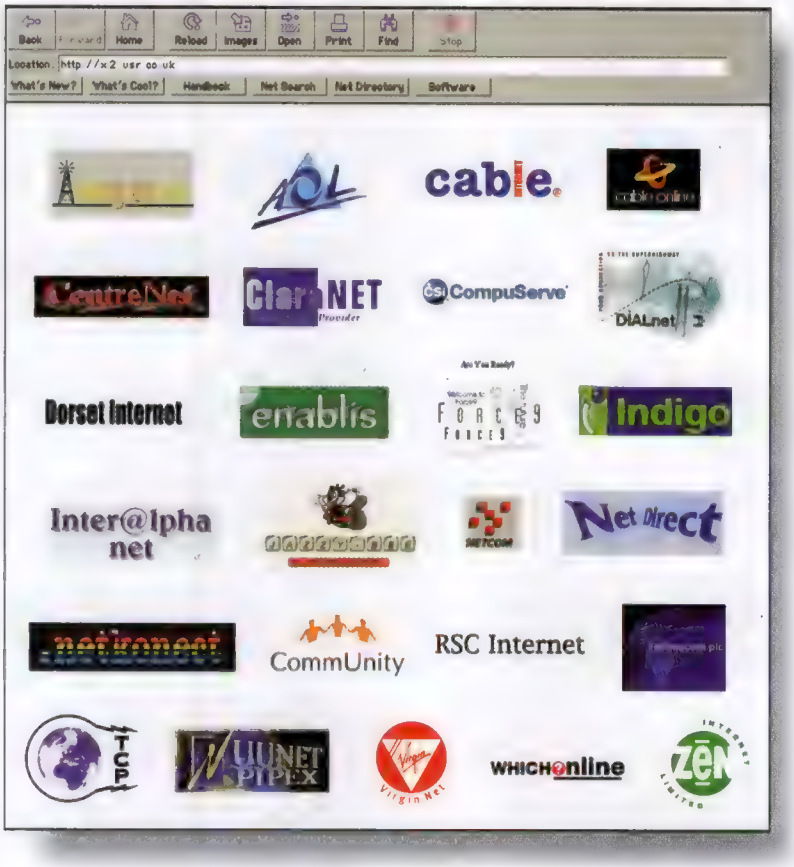

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- *Includes Total Control, Courier Dual Standard, Courier I-modem and Sportster Flash products
- §All Sportster Voice 33.6 modems purchased after 15th September 1996 are x2 chip upgradeable. Register on 0800 997777

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A few dozen US companies stand to make billions of dollars...

...so long as politicians accept the wisdom of American business.

Mike Bracken looks at the global battle to commercialise the Web.

NEEDS YOU

"If government tries to restrain the deployment of the Internet, they're just essentially starving their own people."

Jim Clark, Chairman, The Global Internet Project

Christmas, 1996, in New York, and the top brass of the mightiest Internet companies are taking the 'goodwill to all men' theme a little too literally. Gathered in New York for the end of year Internet Show, in a small conference room deep within the unfeasibly big Jacob K Javitz centre, some of the world's most powerful businesses are outlining their vision of a brave new world. And it doesn't seem to involve too much competition.

Global gathering

The reason for this gathering of Net luminaries is the announcement of the Global Internet Project (GIP). A global lobbying group dedicated to the economic expansion of Internet trade around the world, the GIP has an all-star cast list. Members of its 16-strong board include: John Gerdelman, President of networkMCI services, the US comms giant; Francois Dutray, Group Executive Vice-President, Visa International, the largest commercial clearing-house; Paul Gudonis, President, BBN Planet, the first and foremost US IAP; Michio Naruto, Executive Vice-President, Fujitsu, who make just about every digital hardware product available; Tim Krauskopf, Chief Technical Officer of Spyglass, licence holders of the Mosaic browser. Similar notables from BT, Deutsche Telekom, Spyglass, Sun Microsystems, EDS, Oracle, AT&T and SCO make up the numbers. At the top of this Internet business hierarchy is Jim Clark, the affable but pugnacious Chairman of Netscape, a company whose ubiquitous browser has made it the most visible member of a new breed of Internet power players.

These are serious people who exist in the most competitive of arenas — global communications. But because the Net is so special, they're all going to make friends and forget all their usual tiresome squabbles. Well, what's a few billion dollars between friends?

Billion dollar markets

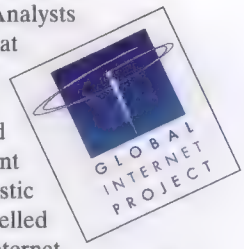
The answer, it transpires, is not a lot. Not when you compare that to the amount of money the Internet is going to make for them all over the next few years, it isn't. According to Takuma Amano and Robert Blohm, economic analysts to the GIP, the Internet will sell $6.6 billion of products and $5 billion of advertising by 2000. They estimate that the growth of the Internet contributed more than $100 billion to non-American economic output in 1996 alone. Analysts Forrester Research estimate that Internet commerce software alone will be a $3.2 billion market by 2000. As far as Blohm and Amano can tell, about 5 per cent of the world's gross domestic product (GDP) will be channelled through or be created by the Internet by the millenium's end. It doesn't matter which educated guess you listen to, there's serious money to be made, and that is what the GIP is all about.

There is, however, an if. And it's a rather big one. This potential will only be realised if governments leave the Net well alone, if common views on security and copyright prevail, if the market is allowed to set the agenda. In a world where financial markets operate globally without many restrictions, where financiers like George Soros can succeed in a one-man attack to devalue the pound, the correctness of free-market economics is unquestioned. Querying the authority of the free-market model that is implicit behind the GIP would be akin to asking Bill Gates if he prefers to use a Mac.

"The Web is 85 per cent American, and it reflects a US culture."

Ilene Lang, CEO, AltaVista

Unfortunately for the GIP though, most of the new markets that it seeks to exploit are yet to accept this conventional wisdom. Its target market, the un-wired rest of the world, is yet to see the benefits of the global network. This is what the GIP hopes to correct. It has issued open letters to global bodies, notably the OECD and the all powerful, at least in terms of setting technical standards, International Telecommunications Union. A white paper, The Emergence of a Networked World, is available freely from its Web site. The GIP wants to see global agreements on standards for security and encryption, a transparent information security policy and a sound legal framework in place. Given that China, large parts of developed Asia, many Russian satellite states, a sizable number of African nations and a lot of Latin and



Global Internet Project

"Concerned about a growing maze of national laws, rules and regulations that may impede the Internet's growth."

Jim Clark,

Netscape /GIP

"Advanced communications have a one-to-one correlation with advanced economies."

Net Mogul Caricatures courtesy of Carl Steadman, Wired Inc.

Central America can not manage to agree on issues such as copyright, trademark, free trade barriers and exchange policies, the chances of them all accepting the conventional wisdom of 16 of the worlds top networking companies seems remote.

Resistance movements

It's not too difficult to see where the advocates of an Internet defined along free-market principles, like the GIP, will find resistance. Although many of new global powers, especially the Asian tigers, have adopted a free-market economic outlook, many of them are stubbornly resisting the simultaneous spread of the liberal attitudes that appear to go with it. And this is one of the problems of the GIP's advocacy of an Internet based solely on free-market conditions: the issues of censorship, privacy and free speech have been inextricably linked to the economic growth of the Web.

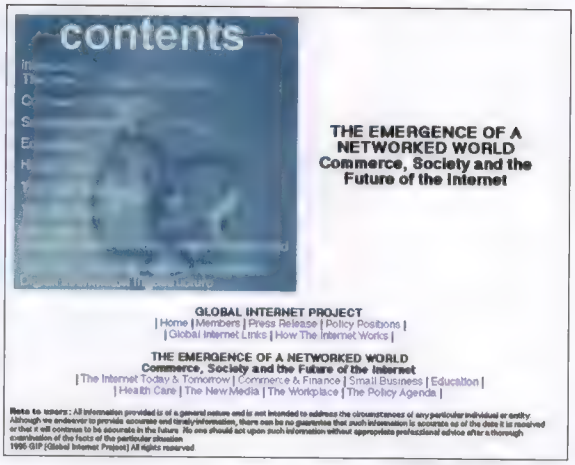
The Internet is dominated by America: ideologically and economically. The hardcore economic orthodoxy of the GIP may be familiar to the UK after the Thatcher revolution, but what doesn't sit comfortably is the combination of liberal values and technological advancement that has galvanised the Internet's development. This view has been advocated by leading figures such as Esther Dyson, Mitch Kapor, Alvin Toffler, George Gilder, John Perry Barlow and Nicholas Negroponte. This group constitute the Net's intelligentsia, but their world-view looks depressingly homogeneous.

In a seminal work entitled 'Cyberspace and the American Dream: A Magna Carta for the Knowledge Age' Gilder, Toffler and Dyson among others highlight how the Internet should force governments further down the free market global economic path. Calling for governments to downsize themselves in order to realise the dream of unfettered Internet growth, this Magna Carta distills the essence of this American-led world-view. 'Cyberspace is the latest American frontier. As this and other societies make ever deeper forays into it, the proposition that ownership of this frontier resides first with the people is central to achieving its true potential.'

At its most basic, the exportation of US economic values brings with it implicit acceptance of US liberal values. Ilene Lang, CEO of Web search company AltaVista, is more succinct. "The Web today comes with our own bias, background and culture." Although she believes that the Internet will globalise, she questions whether the prevailing economic and social values of the Internet will survive. "China might not participate. They might have their own intranet behind a firewall."

> **"The agenda of the GIP is explicitly ideological and political."**
>
> *Steve Bowbrick, Director, Webmedia*

Nevertheless, with such huge sums of money at stake, it's not putting off the GIP. Just four weeks before the election, its honourable members met in London to try and create international guidelines on cryptography. Whether the GIP will succeed is questionable, what is beyond doubt is its commitment to the Internet gospel. One of its key aims is to 'protect the Internet from unnecessary regulation by governments.' The sight of such an obviously capitalistic global lobbying group trying to persuade communist China, elitist parts of Asia and much of the Islamic world to maintain the Net's deregulated status should be interesting.



Global Internet Project's visions paper page.

Culture clash

Various members of the GIP agree that there will be problems in keeping non-democratic nations within the free-market fold. "Globalisation is here. We don't know how to stop it." This is the view of Bill Poulus, a man who travels the world trying to influence leading political figures on behalf of EDS, Ross Perot's old company. "Regulation costs money. We want governments to be less concerned with controlling the Internet and more concerned with its own Internet developers," he adds. When asked about the likelihood that many countries aren't used to taking advice from US Internet companies, especially when the medium they are selling, the Internet, contains content that many countries find distasteful, Poulus sighs: "There's going to be a cultural clash." This is as clear an answer as the GIP members can provide to this conundrum.

Although not explicit, the GIP looks likely to shame un-wired countries into agreement. It consistently

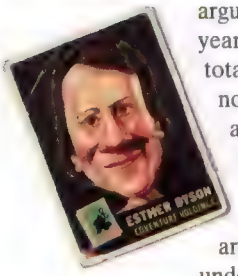
Prince: How one UK firm lost out to US interests

One of the most obvious areas of US control is domain names. Since the entire domain name registration process was handed to Network Solutions in Virginia there have been several disputes between parties. For example, a UK company, Prince plc, who specialise in UK IT migration, training and business solutions, was forced to hand over its .com domain name to a US company. Despite registering its name legally with a UK IAP, Prince plc has been forced to hand over its name to Prince Sports Group in the US as Network Solutions now insist on a trademark registrations in name disputes. As such, Prince plc have been asked to provide a Federal trademark registration, which it does not own, or undertake litigation in a US court to avoid returning the name.

"For the price of a 25c stamp, they [Prince Sports] get our domain name. It's a monopoly that's a law unto itself," claims John Wood, senior Internet Consultant at Prince plc. He claims that by insisting on trademarks to decide who should get a name, the name system effectively favours the large companies with US-registered trademarks and US companies.

www.prince.com **Still currently with Prince plc, soon to go over to Prince Sport for the price of a 25 cent stamp.**

> **"The Internet must be one of the fastest growing industry's in the UK and the government knows nothing about it"**
> *Anonymous UK IAP Director*



Esther Dyson
'The Internet is more ecosystem than machine."

Nicholas Negroponte
"Future consumers will be better served by liberalisation."

equates the Internet with job creation, an irresistible carrot to dangle in front of politicians. To justify this, Blohm and Amano claim that the Internet contributed 1.1 million jobs worldwide in 1996. GIP Chairman and Netscape chief Jim Clark pulls no punches. His argument is quite simple: "Fifteen to 20 years from now, there is going to be a totally different set of dominant economic powers. I would almost guarantee that your country's position is going to be directly related to what you've done in deploying Internet technology." Although Clark argues that nations who now have an undeveloped telecommunications system are at a disadvantage, his causal link between Internet and prosperity is clear. "The Internet means that you have better communications. People get educated better, and society gets better. If a government tries to restrain access to information, tries to restrain this Internet network, they are essentially starving their own people."

Given this stark scenario, who cares about US cultural dominance? Well, we do. As a nation we are split between unquestioning acceptance of American brands and products, yet retain a sceptical attitude to its unrelenting capitalist zeal. Given that the present outlook is a choice between both or none of these, just where does the UK stand?

The UK's dilemma

Do we accept the GIP commonwisdom and accept that cultural dominance is part and parcel of Internet culture, or do we renew our efforts to create an essentially UK variant? To be honest, it doesn't look as though we've progressed far enough along the Internet's development cycle to even consider the question. When I asked one leading IAP director his view on UK involvement with the issue, he simply laughed. "The Internet must be one of the fastest growing industries in the UK and the government knows nothing about it." And this is putting it mildly. The UK political party's paltry efforts at engaging the online community are spread thinly. John Major asserts that 'industry must show the government what can be done on the Internet,' as if this itself is a solution. One UK Internet company was quoted a £2,000 fee just to use pictures of Tony Blair on its Web site.

The digital dilemma

While most Internet pioneers and commentators, myself included, support many aspects of the new digital culture, there remains a degree of ambivalence about accepting US values as part and parcel of the Internet. It's an obvious point, but why are there no .us names used as .uk and .fr are for the UK and France respectively? Why is the current debate on freedom of speech and censorship taking place almost entirely against the backdrop of the US First Amendment? Why is domain naming increasingly falling under the aegis of US copyright law? Because these issues affect growth and business on the Internet, and the US has been quick to see that if it sets the agenda then its businesses will gain. Between 1990-95, the US nearly doubled its market revenues from information and communi-

Useful URLs

International Telecoms Union
www.itu.ch/
Federal Communications Commission
http://ftp.fcc.gov/
Electronic Freedom Foundation
www.eff.org/
Net Freedom — No Censorship on the Internet
www.netfreedom.org.au/anoid/
Controlling access to the Internet
http://dis.strath.ac.uk/people/paul/Control.html
The Global Internet project
www.gip.org

EFF: Pioneers of Internet democracy.

FCC: Powerful US government body.

ITU: Setting the telecoms standards.

Net Freedom: Free speech online.

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cation technology to $560 billion, and much of this was due to the growth of the Internet. European growth was less than a quarter of this figure. We have only slowly recognised the economic opportunities of the Internet, and this lethargy has left us unable to participate meaningfully on the social development of the Internet.

For some, though, there is a new breed of Internet culture taking hold in the UK. Steve Bowbrick, Director of WebMedia, the ISPA and home-grown Web entrepreneur sees it as young, post-political, technologically savvy: an indigenous response to global digital culture. "This group is committed to network culture," he claims, "and they are just about to get roundly exploited by the GIP." Bowbrick is one of the few UK Net-savvy operators to have reservations about the growth of an Internet underpinned by one world view. "The agenda of the GIP is explicitly ideological and political. In principle, the Internet supports plurality and resists dominance, yet it's got a tendency towards dominant ideas." The free-market Net ethos, be it right or wrong, supports the Internet's growth, while at the same time the Net mirrors the free market's underlying beliefs.

Grow your own

Belief systems, the role of government, the value of 'Internet' jobs and the loss of indigenous media are emotive issues, not ones usually associated with the Net. But we have to support indigenous media and create our own virtual economy from within, not have it dripfed along with a self-justifying political and cultural agenda that justifies itself purely because we don't yet have one of our own. The GIP itself should not be blamed too much. It contains many visionary people who fervently hope to see a networked world transform all our lives. Maybe we need to get beyond the standard nerd image and try and form some opinions internally. Of all the comments directed my way, one sticks in the mind. Again it's Bowbrick, who said that 'only powerful ideas take root on the Internet.' The vision offered by the GIP and its US backers is a very powerful one, invested with thought and resources over the years. Maybe we should have a vision of our own that complements or alters this conventional wisdom. It's just an idea.

Mike Bracken is Deputy Editor of Internet Magazine, contact him at mikebr@internet.emap.com

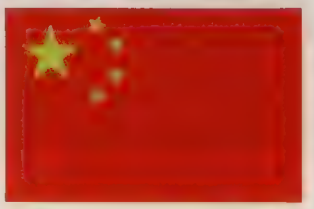
The Internet around the world

The US-inspired vision of all countries accepting common standards of Internet development will be severely tested by non-democratic and newly developed nations. David Atkinson picks out the likely global hotspots.

China

In September last year the Chinese administration blocked access to hundreds of politically sensitive Web sites including those of foreign media outlets, human rights groups and Hong Kong-based pro-democracy groups as part of what it calls its 'regime against spiritual pollution.' Among key sites banned were Amnesty International, the Human Rights in China campaign and all US-based news and media sites.

"It's another example of China taking a step backward in the Information Age," said one western Beijing-based diplomat.



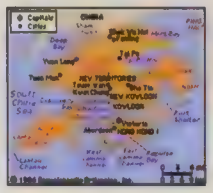
This latest move comes three years after the government banned private ownership of satellite dishes, while in January this year Beijing decreed that the official New China News Agency would have ultimate control over all content derived from foreign agencies. As a result, formerly independent service providers were required to sign a pledge to limit political and sexual content. Chinese student's sites have also subsequently been blocked.

Hong Kong

At 2.15pm on February 23 of this year, Hong Kong Internet Gateway Services (HKIGS) turned off Internet access to 10,000 local Internet users by severing connections to six operating IAPs.

The shut-down was pre-empted by a series of raids on what was deemed 'the unlicensed provision of services' by the major IAPs by the computer crime division of the Commercial Crime Bureau (CCB) accompanied by the Office of Telecommunications Authority (OFTA). The OFTA later issued a statement claiming it had not initiated the raids, but was merely providing technical support. According to one user, "This episode has set back the business use of the Internet in HK by two years."

No explanation was offered by the HKGIS but it was rumoured that its US backbone connection provided by



Hong Kong: Could the colony fall off the Internet map?

Advanced Network Services Inc was at risk. Eight people were arrested during the raids and detained under suspicion of providing a telecoms service without a licence.

Malaysia

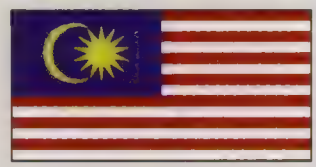
Malaysia is ostensibly one of the more forward-thinking of the Asian countries when it comes to the Internet, proclaiming that: 'The Internet is an instrument for democratising societies.' It is also examining the possibility of developing a backbone link between all Asian countries.

Nevertheless, the Association of South East Asian Nations (ASEAN) agreed in September last year to collaborate to find ways to control expression via the Net. The ASEAN Secretariat in Jakarta was subsequently inundated with human rights organisations voicing their concerns.

This rests uneasily alongside the government's assurance that it will not actively filter content. It has nominally devolved responsibility to the Acceptable Use Policy at Jaring, the main Malaysian backbone provider, whose ethos is that 'members shall not use the Jaring network for any activities not allowed under any Law of Malaysia'. Subsequently, Usenet groups have been heavily censored.

Singapore

In Singapore, the government takes a far more active stance. George Yeo, minister for Information and Arts recently said: "The act of censorship is



symbolic and an affirmation of the values we hold as a community." As a result government censors have vowed to stop un-encoded binaries of any kind coming into Singapore while access to certain overseas sites is blocked.

Action came in July last year when The Singapore Broadcasting Authority (SBA) announced measures to regulate access to material available to Singapore's 100,000 Internet users. All Internet providers, be they IAPs or cybercafés, now have to register with the SBA. In addition, any organisation adding locally produced religious or political content would also have to register with the SBA first.

The day after these measures were announced, a political posting in the Usenet group soc.culture.singapore was removed by the SBA. Rather incongruously, Singapore is in the unusual situation of expressing a strong desire to harness new technology while simultaneously introducing censorship controls. As Microsoft boss, Bill Gates, put it:

"They want to have their cake and eat it." As such, the authorities take a kind of staggered view of censorship whereby material for business and a wider benefit such as education are censored with a lighter hand while home users come in for closer scrutiny discouraging casual and new users. Censorship is undertaken by the Ministry of Information and Arts, where the work they handle has increased by more than 400 per cent from 1983-93.

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In the wake of the introduction of seven new domains, David Atkinson asks if they really are the magnificent seven, riding into town to save us from domain name confusion. Read on, to find out if you need to register your company yet again and how much it's going to cost.

The name game

So here's the plan. I've got this idea for a Web site. Fine, so I need to register a domain name. That's the human friendly name that allows people to easily locate my sparkling new site on the Web. Easy, eh?

Well, up to a few months ago, yes, it was easy in a very haphazard first come, first served kind of way. But now things have changed. After a series of high-profile disputes over who gets which domain name and a bulging of the books of international property rights lawyers, the authorities have stepped in to do a Harvey Keitel and clean up the whole domain naming morass.

> **"Lots of companies will rush to buy domains to protect their company identity. I think we'll see a lot of domains sold in the next few months."**
>
> *Giles Donovan, NetBenefit*

In February, the eleven-member International Ad Hoc Committee (IAHC), under the auspices of the chairman of the Internet Society Donald M Heath, announced the creation of seven new top level domain names to sit alongside the current trio of .org .net and .com. "The structure we have established for the operation and oversight of domain name administration ensures that we will have stability and continuing input from a broad spectrum of organisations and individuals," said Heath at the report's launch.

One of the points in the new report is that you should be allowed to challenge a proposed domain name. The World Intellectual Property Organisation will rule on whether a second level domain violates the policy, which states that a domain name containing an internationally recognised trademark may only be held by the trademark owner. They hope that this will avoid the domain name grabbing that's cropped up recently as companies, such as McDonald's and *The New York Times*, found their trademarks had already been registered by someone else.

So is this good news for the industry? And how will it impact on you, gentle reader? Well, the reaction so far has been one of cautious welcome.

"I think the IAHC has made the best of a bad job in providing a framework that, like it or loathe it, we'll all have to live with," says Nick Woods of Net Searches, specialists in providing Internet services to the legal profession. "It will be

Illustration: **Jac Depczyk**

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interesting now to see how these changes are mirrored at country level. Certainly it's an improvement on the current system and, despite some initial concerns, I think companies will embrace it."

The Magnificent Seven?

The seven new names chosen by the IAHC have been welcomed by the industry, although concerns remain that the overlapping nature of some may cause future conflicts between new and existing domains. The consensus is that the seven new names give more scope for choice, but the only really important ones are those which complement .com – .store and .firm. Their impact will only be on top level domains, hence targeting companies that would have normally registered as a .com.

"The seven new domains give a greater variety of options to people, re-introducing the generic element so companies don't necessarily have to opt for .com," says Woods. "However, I think it's a lost opportunity they didn't introduce .sex as that would have been a way for individuals to avoid inadvertently stumbling across porn on the Net."

The seven new names

.firm	for businesses
.store	for businesses offering goods to purchase
.web	for promoting activities related to the Web
.arts	for promoting culture/ entertainment
.rec	for promoting recreational activities
.info	for providing information services
.nom	denoting an individual's personal pages

"The industry was crying out for new international domains," says Giles Donovan, business development Manager at NetBenefit. "But now there's a lot of argument going on because the names are very American and have little appeal to the European market, especially .firm. We would have liked to see something like .eur or .bus, which cater for the European market."

To address this issue, later this year the UK will see the introduction of .plc and .ltd. According to Valerie Holt, MD of backbone provider PSINet, any attempt to clarify the domain name game is a positive move.

"From my understanding, if you're currently registered as .co.uk then that cannot be taken away from you. But the Net will only make commercial sense if we have reliable reference points so we can avoid domain grabbing," she says. "It's in nobody's interest to have confusion and misrepresentation. The whole process of

The legal situation on domain names

Duncan Calow, solicitor in the Internet team at Denton Hall advises on the legal situation with the new domain names. www.dentonhall.com

Legal disputes arise in 3 main situations...

1. Where A registers B's trademark as a domain name to try and prevent B from establishing a site under that name, to force B to pay to acquire the name, or simply to see B's reaction. An real-life example of this is the TV company which registered the station idents of three rivals, 'just for fun'.

2. Where A registers B's trademark as a domain name and actually intends to use it. The BT case is a good example of this. An unofficial Web site – at www.britishtelecom.com –became a magnet for emails from disgruntled BT customers.

3. Where two parties are in dispute over a domain name which both want to use for their business. For example, an IAP registered the domain name www.thegap.com for its Genesis Access Point product and, unsurprisingly, got tangled up in a dispute with the clothes retailer The Gap.

What you can do about it

The UK has an established framework for protecting trade names — either as registered trademarks or through the law of passing-off. However, that framework wasn't developed with the Internet in mind and, as most UK disputes tend to be settled out-of-court, there's a lack of case law to provide guidance on how to deal with domain names.

For example, there's the jurisdictional complication where .com domain names cause disputes between UK companies in the UK courts but are originally registered with InterNIC in the US, which operates under US law. Which country's courts should hear the case and which law should apply? A further issue is the position of domain name registration bodies themselves. How far should their registration procedures take note of existing trademark rights, and should they be prepared to amend registrations rather than asking companies to take expensive legal action?

As *Internet Magazine* has reported, The Internet Society's International Ad Hoc Committee has published a report recommending the reform of registration procedures to take greater account of trademark rights. Legislation from the European Commission is also on its way. In the meantime however, I'm afraid the rules of the domain name game remain less than certain.

How much a domain name will cost you

Company	Phone	Web address	Price for one year. (excl. VAT)	Price for extra years	Register all names	Register Int[1]	email fwd[2]	Web fwd[3]	How long to activate
Corpex	(0171) 242 4555	www.corpex.com	£60 to 100	none	●	●	●	●	one hr
Digital Portfolios	(0171) 372 8584	www.digi.com	£119	£99	●	●	●	●	five days
DNR	(01277) 622 540	www.dnr.net	£59 (start) £100(2 yrs)	£50	○	●	●	●	.co: one hr[4]
DomNames	(01703) 864 422	www.domnames.com	£95 (2 yrs)	£50	●	●	●	●	12 hrs
Global Internet	(0181) 957 1041	www.global.net	£200 (2 yrs)	£40	○	●	●	●	10 days
Internet Network Serv.	(0181) 296 9201	www.insnet.net	£150	£50	●	●	●	●	same day
Internet Services	(01325) 333 926	www.names.co.uk	£40 (start)	£50	●	○	○	○	two days
Mailbox Internet	(0171) 731 8558	www.mailbox.co.uk	£30 (start) £40-£100	£50	●	●	six mths free	●	one day
NetBenefit	(0800) 592 755	www.netbenefit.co.uk	£40 to £100	£20	●	●	●	●	30 mins
NetNames	(0800) 269 049	www.netnames.co.uk	£150	none	●	●	●	●	one day
Net Village	(0181) 255 6777	www.netvillage.co.uk	£99 (2 yrs)	£50	●	●	●	●	10 days
Total Web Solutions	(0161) 485 5586	www.totalweb.co.uk	£79 to £149	£79-149	●	●	●	●	same day
Virtual Computer	(0181) 554 1071	www.virtual/vc.com	£100 (2 yrs)	£50	○	●	●	●	seven days

● yes; ○ no; [1] **Register Int** – does the company handle international domains; [2] **email fwd** –do they have an email forwarding service; [3] **Web fwd** – do they have a Web forwarding service; [4] **.co: 1 hour others: up to 10 days** –.co.uk domains can be registered virtually immediately, hence the big differences in times quoted.

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registration has been rather arbitrary so far, but as the market grows I think we'll see rationalisation."

"In some ways it makes things easier and in others seven times harder," adds Mark Henderson-Thynne, domain name manager at registry NetNames. "The new domains operate on a shared directory basis with a common database, which should be better for the consumer, giving them more choice. At the same time it fragments the domain space, making domains harder to find."

"Besides," he adds. "It could well be six months to a year before we see registrations being allowed in these domains, because of the legal actions pending and protests from a few vocal minorities."

So what does it all mean, in the long term?

The first and most immediate implication of the changes is the creation of 28 new agencies licensed to act as domain registrars across the globe. The 28 new registrars are to be established according to criterion outlined by the IAHC to grant registrations for second-level domain names.

The holders of these licences should expect their coffers to swell as a result, but not all are convinced that the new domain names solve all the naming problems.

"The concern is that the large organisations will register multiple times and the whole domain naming industry will be taken over by large corporates," says Donovan at NetBenefit. "What's more, I suspect a lot of domain name registries are not applying for one of the 28 available licences, given the demands they need to meet to qualify."

"The effect may be to squeeze out the smaller business."
Mark Henderson-Thynne, NetNames

When the domains come into effect, many suspect that large corporates will register their trademark name in all the domain spaces to avoid further domain grabbing scenarios. This, in turn, could potentially increase the amount of traffic across the board, on an already overworked network.

"Despite the fact that business users will be given more places to register, I think – as a lot of corporates will register in all seven domains to protect their trademark – the effect may be to squeeze out the smaller business," says Henderson-Thynne. "It won't make a huge difference to the average Net user, especially people who locate domains via a search engine."

"I doubt we will see any increase in network traffic as a result of the new domains," adds Willy Black on industry effects. "Domains are just another factor contributing to the growth of the Net. It's important, but it's not going to undermine the structure of the Internet."

The voice against

Unless Alternic has its way that is. There's already a ground swell of opposition to the traditional DNS structure, due to political and physical reservations over the US-centric domain-naming system.

By setting up in direct competition with Internic – the existing registry for all top level domains – Alternic could potentially split the Net in two. How? By setting up new name route servers that, effectively, create a new Internet in which domains administered by Alternic will be recognised, but not domains administered by others. Simple, eh?

"A lot of people see it as time to break the monopoly Internic has but, preferably, in the co-operative spirit of the Net," explains James Fidell, senior systems administrator at Netcom. "If most of the world comes out in support of the IAHC then Alternic will find themselves in a very tricky position."

Looking to the future

So where does that leave the average Net user? Bewildered, befuddled and unregistered, no doubt. The industry remains cautious, so while seven new names set out to make life simpler it seems they've also made it seven times more confusing.

"I'm not sure there will be enough support around the globe for this to take off," says Willy Black. "These regulations went through too quickly and needed to be better thought out."

"If they fail to get these domains off the ground people will become disillusioned and end up doing their own thing or sticking to .co.uk and .org," says Henderson-Thynne. "If in doubt my advice is to stick to what you know."

The one certainty, however, is that the winners will inevitably be the large organisations that gain control of the domain-naming procedure. With so much confusion around, gaining control of the nuts and bolts of the Net could prove a licence to print money.

"These changes will lead to a lot of industry mergers and take-overs," says Donovan at NetBenefit." Getting a licence will be your ticket to gold."

David Atkinson is a reporter for Internet Magazine, contact him at davida@internet.emap.com

Four steps to registering your domain name

1. Choose your name

A .com (generic commercial) or .co.uk (UK commercial) name is best for a UK company or person. The name should be between three and 22 characters (.co.uk name can be longer) and only letters, numbers and hyphens are allowed.

2. Check to see if it's available

You can search www.internic.net to find out which .com names are already taken. Unix users can Telnet into DNS services to find other.ent .co.uk UK names. Alternatively, you can search on the sites of the agencies to see if the name is already taken.

3. Part with your money

Check out the prices direct from Nominet at www.nic.uk/nominet/charges/prices.html
Name requests are charged at £80 plus VAT, which covers the first two years, after which an annual renewal fee of £40 plus VAT is charged.

4. How long will you wait?

.co.uk names are normally registered the same day, .com names can take up to two weeks, but are normally registered within one or two days.

Contact details

NetNames www.netnames.com
Nominet www.nominet.org.uk
NetBenefit www.netbenefit.co.uk
WIPO http://ra.irv.uit.no/trade_law/documents/i_p/wipo/art/wipo.html
IAHC www.iahc.org
Alternic www.alternic.net
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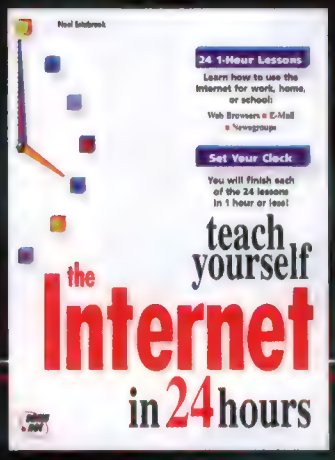

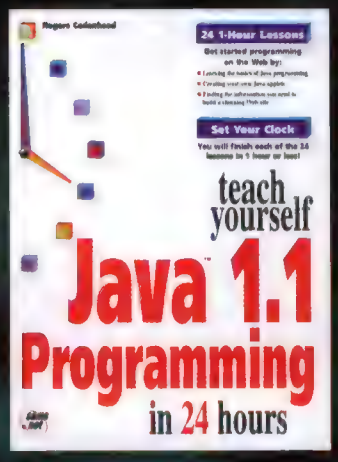

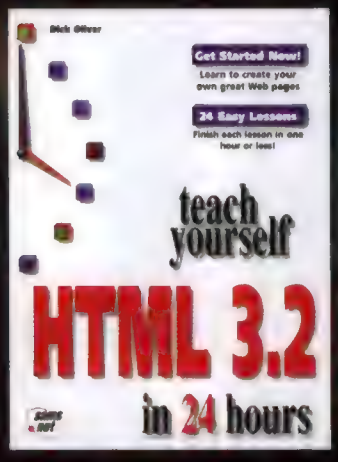

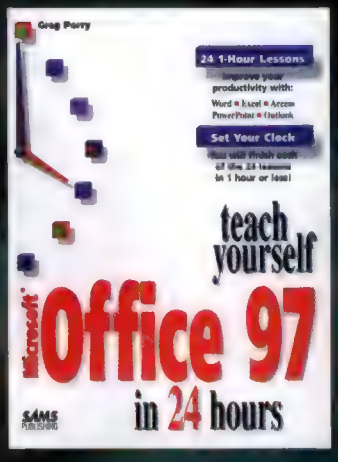

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the truth is out there

The Internet is one of the world's most powerful reference tools, but how do you know if that information can be trusted? Charlie Harris' second foray into information resources on the Net examines which services are worth paying for and he also digs out those that are both trustworthy and free.

Traditionally, the Internet has always been free, and somewhat anarchic. As we saw last month, some sites are brilliant, solidly constructed, easy-to-use and full of high quality material. And others quite simply aren't!

However, with all the recent hype about the Net, many don't realise that there are other dial-up subscription services which are as old, or even older, than most parts of the Internet. These services, sometimes called the 'Outernet', offer a wide range of reputable information, but at a price. We've picked out some of the best subscription services, those which we feel are worth you spending your hard-earned on.

Even better news is the fact that there are many genuinely useful and trustworthy free information resources on the Web. We list the *Internet Magazine* top 30 free Web resources over the next four pages.

so, what's on offer?

If you're going to pay for an information service you'll want to be sure you're getting value for money. My definition of a 'quality' information resource includes the following:

- Accurate and authentic information. This often comes through well known brand names such as Reuters and Dun & Bradstreet.
- Fast and flexible search facilities.
- The information should cover the UK, not just the US.

The information services we'll be looking at divide into five key areas...

news services

There are a host of services offering up-to-the-minute news. Most of these services can also tailor the news to your specifications, to flag-up subject areas you're interested in. The really good news is that many of the quality news services are also free.

price trackers

From stock market to raw materials, there are services which will give you pricing information...at a price of course. Again, there are free Web sites which give you stock market prices although they usually have a built-in delay of a few minutes.

The subscription services, such as Quote.Com (**www.quote.com**) offer up-to-the-minute pricing, more detailed reports, portfolio tracking and, in some cases, the ability to trade online.

market research

Many of the Outernet services will allow you to search for market information and new trends. Some can alert you to developments in specific fields, as well as being able to search across multiple databases for relevant market information.

Tracking and searching like this just isn't impossible in the diverse world of the Web.

product/company data

About to do business with a new company and want to know if they're likely to pay their bills? Subscription services can provide you with company reports, annual audited accounts, director profiles, lists of County Court judgements, even pretty coloured graphs and tables. Much of this (except perhaps the pretty coloured graphs and tables) is available in the public domain if you want to go and look for it – but the subscription services take the hassle out of finding the information.

archives

Finally, there are literally thousands of electronic archives available on the Outernet. Some of them have been around for decades. Others are being added every week.

From magazine articles of every hue, scientific and legal abstracts through to property news, business directories and Ordnance Survey maps, your subject is bound to be covered. Some services even offer to book your hotel or flight online. But it does beg the question could you do it faster and cheaper yourself?

- Please note all prices quoted in this article exclude phone charges, Internet access and VAT.

Free resources

news services

Yahoo headlines
www.yahoo.co.uk/headlines/
News headlines for the UK – simple, fast and no fuss.

Electronic Telegraph
www.telegraph.co.uk
Not just the online version of the printed paper but – more importantly – one of the best searchable archives on the Net.

Journalism UK
www.octopod.demon.co.uk/journ_uk.htm
Indispensable. Just about every UK news link you could imagine, including local and national papers and online news services.

stock market prices

PC Quote Europe
www.pcquotes-europe.co.uk
Check share prices and get real-time quotes. This service covers both the UK and US.

MoneyWorld UK
www.moneyworld.co.uk
Up-to-date stock market data, market reports. You can even check your investment funds with PowerSearch.

CitiService Online
www.citiservice.co.uk
Beta service of, what looks like becoming, a very good provider of stock market news, currency, share and company information.

Money Daily
pathfinder.com/money/moneydaily
US Market Watch service which covers business reports, quotes and prices from the US stock exchange.

company information

FT online
www.info.FT.com/zabout/
Detailed information on 10,000-plus British companies from the prestigious Financial Times online service. You can't ask for more than that can you?

Edgar
www.sec.gov
Well you can if you want info on US companies. Edgar holds even more detailed information, from the American securities exchange, on US companies.

FreePages Business Directory:
www.freepages.co.uk
Look up companies by geographical area, by brand and branch locator, or look up what's on at the local cinema.

encyclopaedia britannica online

$150 will buy you a year's subscription to the most famous encyclopaedia in the world. Britannica Online is laid out with impressive style and, importantly, it loads quickly.

You can search the full encyclopaedia using operators such as AND, OR, NOT to help filter your search. Britannica claims to keep the online version updated on a daily basis, but they don't deal in news. So, expect to find major events covered but not the intricacies of last week's politics, or the football results. A good, solid and massive information resource.

Web www.eb.com
Access *Internet*
Cost *$14.95 per month or $150 per year (special rates for large institutions and educational establishments, and those who've bought the books or CD-ROMs). There's a seven-day free trial period.*

medline

MedLine is a medical database which has been online for more than 30 years. One of the most impressive features of the product is that, with the right interface, it can support thesaurus-based mapping. This is basically a sophisticated way of searching. Enter the term Eye and it will pull out a hierarchy of terms related to eyes. In the hierarchy, you'll find words, such as Cornea and Retina. You can refine your search for articles which contain one or more of these terms, or you can explode your search to include all of the related topics.

In this way you can find articles on, say, glaucoma, which may be relevant to your search but don't necessarily mention the word eye at all. You can broaden your search by going up in the hierarchy to find other related subjects. So if you're searching on psychotropic drugs you can see which other drugs are in the same family. Finally, you can save your entire search strategy on a particular topic for future reference.

MedLine covers just about every medical journal, but for the moment only gives bibliographic and abstract details – you still have to retrieve the text of the articles in paper form.

Web http://muscat.gdb.org/repos/medl/
Phone *(0181) 748 3777*
Access *Internet (simplified interface, subscribe and you get the full interface)*
Cost *Free on the Net. Subscription, $4 per hour for the connection. $12.50 per hour for active database use and 25¢ per record downloaded.*

press association

The Press Association has its own free shop window Web site, where you can access a selection of up-to-date news. The company also sells its news services to other sites, for example, you'll find PA news in both CompuServe and Tel-Me. Visitors to the site can specify a mix of news topics to suit their own interests. Reuters (www.reuters.com) supplies a similar service.

The PA grew up as a co-operative, dedicated to providing unbiased news to the UK's national and regional press and it has carried on that tradition into its online products. You'll find solid, relatively dependable news items (although professional journalists would always double-check before using agency material).

You can buy in a PA feed for your own Web site, either on a pay-as-you-go rate, or for an all-in price of up to £3,000, depending on the level and nature of usage. Typical customers are PR companies and corporate affairs departments of large organisations.

The PA is also launching new ventures, such as Sporting Life. This free Web site gives you live results across all sports. There's also a meaty archive of breeding and form information available for free on the site but it's soon to become subscription only.

Web www.pa.press.net
Phone *(0171) 963 7146*
Access *Internet*
Cost *News is negotiable. Racing information is currently free, soon £6 per month, or £25 per year.*

Don't expect the latest news from Britannica but if you want historical information this is the ultimate information resource.

PA News sets out to provide an unbiased news service. To get the full feed though you'll have to pay.

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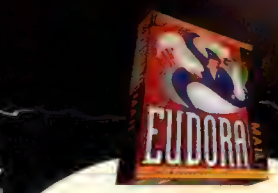

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Free resources

world market and product information

World Factbook
www.odci.gov/cia/publications/nsolo/wfb-all.htm
The famous 1995 CIA world fact book – now in its 1996 edition – gives vital statistics on every country in the world.

British Council
www.britcoun.org/index.htm
Information on selling British abroad.

Trading Standards Net
www.xodesign.co.uk/tsnet/
Excellent site, covering consumer legislation and comes with a full list of current product recalls.

government and law

British Government
www.open.gov.uk
Get straight to the relevant government departments. The site includes pressreleases and directives.

European Union
http://europa.en.int/index-en.htm
Find out the truth about EU directives from the fount of EU wisdom itself.

Business World
www.businessworld.co.uk
A potentially great site for small business, with information, advice and forums. Created with the help of the Federation of Small Businesses.

travel

Railtrack
www.railtrack.co.uk
This site will work out your journey and timetable, but sadly not the prices.

Internet Travel Network
www.itn.net
An efficient site which offers flight bookings, along with all kinds of travel info about your journey and destination wherever it is in the world.

AA Roadwatch
www.theaa.co.uk/theaa/traf1.htm
Currently, only European road traffic information, but British roads promised later in the year.

academic

Oxford University
www.ox.ac.uk
The academic departments, the libraries and links to online journals and publishers.

UK Universities Map
www.scit.wlv.ac.uk/ukinfo/uk.map.html
A clever idea – a clickable map which takes you to the home page of any university or college in the UK.

Knight-Ridder

Knight-Ridder collects together information resources. Its Dialog service, from the US, is still only accessible through a Telnet connection, while the Swiss-based DataStar has full Web access, and it's DataStar that I looked at.

The service contains 700 databases covering just about every business topic conceivable (MedLine is one of them).

With DataStar you pay for what you use. The annual subscription charge is small – 80 Swiss francs per organisation. Different databases levy different charges and the formulae are fiendishly complicated. For example, on Knight-Ridder, MedLine will cost SFr 21.50 per hour, and SFr 0.28 per item downloaded. However, it's free unless your ratio of free titles to paid documents per month exceeds 10:1, in which case they reserve the right to charge SFr 0.21 per paragraph displayed online. Aaagh

You can access most of the key databases, newspapers and magazines from around the world, company reports from Infocheck and Dun & Bradstreet, reports on trends and regions, and official airline and railway guides.

Web www.dsweb.krinfo.ch/test
Phone *(0171) 930 7646*
Access *Internet/Dial-Up*
Cost *(DataStar) SFr 80 per year, plus added charges per database searched and item downloaded. Free test site.*

Tel-Me

There's no Web access to Tel-Me, only direct dial-up. The deal does include a lot of offline information though, to help you sort out your search before you run up phone bills. Tel-Me claims any search can be done for the cost of local call. The downside is the service isn't cheap and Tel-Me has decided it will sell a minimum of 10 site licences at a time, thus cutting out home users and most small businesses.

For your money you get a browser with a set of buttons at the top of the screen, each of which links you to a different service. There's information from all the usual suspects, Infocheck, CNN, Dun & Bradstreet, PA news, BR railway timetables and Ordnance Survey Maps.

Recent PA News and initial searches are free, but many reports are surcharged, depending on the level of detail. I tried an Infocheck report on my bosses at EMAP Communications. The report gave me not only all the latest financial figures, but also two pages of pretty coloured graphs. Charge: £24. I assume that the figures and graphs are accurate, although when I downloaded a local Ordnance Survey map (50p) I found at least one significant mistake. The What's New service, supposed to give news on market trends, was similarly unimpressive.

Knight-Ridder collects together a wide variety of databases.

Tel-Me seems to be aimed at companies with at least 10 employees who regularly rush around the country, needing fast information on a range of different businesses and how to find them. If that's you, then give 'em a ring.

Phone *(0181) 242 4100*
Access *Dial-up*
Cost *Software, £50 per user (minimum 10). Subscription, £100 per user, per year. Some services charged extra.*

InSite

InSite offers six different services at all-in prices. These allow you to search across a wide range of publications relating to businesses, markets, computer news, consumer information, industry and company newsletters. You can subscribe to any or all of them and there are no extra charges.

The interface is good and you can either conduct simple searches or more complex searches, specifying key terms in different parts of the articles. You can also list the periodicals covered, to see where InSite is looking for your data.

However, while there's a certain breadth, there's less depth when it comes to the journals. Generally only the more popular ones are there. *The British Medical Journal* was the only medical publication that started with the word British which means that a number of important journals were missing.

This underlines a marked US bias that seems to run throughout the InSite databases. A good service, if you want breadth rather than depth.

Web http://iac-insite.com
Phone *(0171) 930 3933*
Access *Internet*
Cost *From £1,600-4,500 per year, per InSite service. No extra charges for searching or downloading.*

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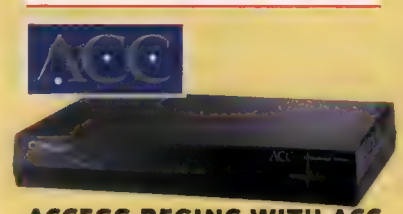

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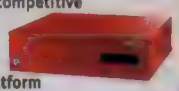

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Free resources

BIDS
www.bids.ac.uk
Searchable academic databases – good stuff, but strictly open only to users at a bona fide academic site.

management

Confederation of British Industry
www.brainstorm.co.uk/reg/CBI/public/CBINewsHomePage.html
The CBI's newsletter online, featuring articles by top entrepreneurs on important economic issues. You can search through back numbers too.

Business Processes Resource Centre
http://bprc.warwick.ac.uk/index.html
Warwick University has set up this thought-provoking site dedicated to improving the way organisations run.

Entrepreneurial Edge
www.edgeonline.com/index.shtm
An American site, but still full of relevant advice and information on how to be a better entrepreneur.

internet news

Internet Hotlist
www.emap.com/internet/hot/
Our very own hotlist of market information about the Net, updated at least every week, complete with optional email alert to warn you of changes.

Internet Magazine Online daily news
www.emap.com/internet/news/
A daily updated news service from your favourite Net mag.

Ziff Davies
www.zd.com
Searchable archives which run across a wide range of computer magazines. Incredibly comprehensive.

ENTERTAINMENT

Sporting Life
www.sporting-life.com
All the sporting news that's fit to print, in collaboration with the Press Association (*see text*). The news sections remain free and attractively presented.

Corporate Entertainment Online
www.corporate-entertainment.co.uk
A stunningly comprehensive site with links to everything to entertain and amuse your clients – from after dinner speakers through to war-games.

The Met Office
www.meto.govt.uk
This being Britain, no plans can be complete without the weather – in this case from the Met Office, with 24-hour predictions and, of course, the shipping forecast.

Lexis-Nexis

Lexis-Nexis is the Rolls-Royce of subscription services. Although it's been going for many decades, it's currently busy reorganising to handle the advent of the Web. But, persevere the service is excellent, if a bit on the pricey side.

The service spans an enormous number of databases, from law (the Lexis bit) to science, business and journalism (Nexis), including archives from just about every journal, magazine and newspaper in the world – from the *Scottish Daily Record* to the *South China Post*.

The Rolls Royce of subscription services with a matching price.

One TV production company, Independent Image, which uses the service for research, says that researching one programme can repay the subscription. They recently used the system to help Jimmy McGovern write an episode of Cracker, where he needed to know if tests could confuse the DNA from two brothers (apparently they could).

Web www.lexis-nexis.com/lncc/
Phone *(0171) 464 1300*
Access *You can access Lexis-Nexis in many different ways, from dial-up to leased line, or you can hold some of the databases on CD-ROM, or on an office intranet. However, at present, only a small part of the service is available on the Web.*
Cost *I never said Lexis-Nexis was cheap. The services are available on an hourly rate (from $131 per hour, all-inclusive); a transactional basis (from $6 per database searched, plus 2¢ per line downloaded); or all-in (from $1,000 per month, including $200 worth of downloads).*

compuserve

The big Internet Service Providers (ISPs) – AOL, MSN and CompuServe – all offer extra services. CompuServe offers the best selection of business information. A subscription brings you automatic access to a number of databases, including many offered by the more expensive services reviewed here, although almost all incur extra charges.

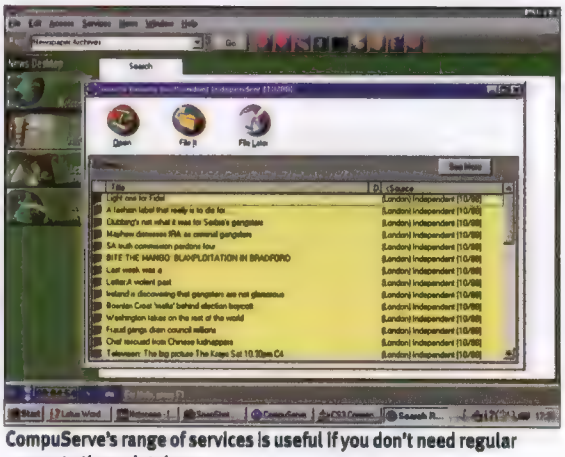
In finance, for example, there's the UK Company Research Centre (GO UKLIB). Here, Infocheck will bring you details of a specified company, including the latest annual report, accounts and a suggested credit rating. This service will set you back $75.

The same $75 (plus $2 search) will get you an Extel card, with enormous swathes of financial detail. Other databases include newspaper archives, such as the UK Newspaper Library (GO UKPAPERS – $2 to search for titles, $4 per article downloaded), and the more general – and in my opinion, better – Newspaper Archives (GO NEWS ARCHIVE – $1.50 per article).

If you don't want to use these kinds of services very often, or you're already a subscriber, an ISP like CompuServe could be a useful way to get access to those databases of information, without committing to large payments up-front.

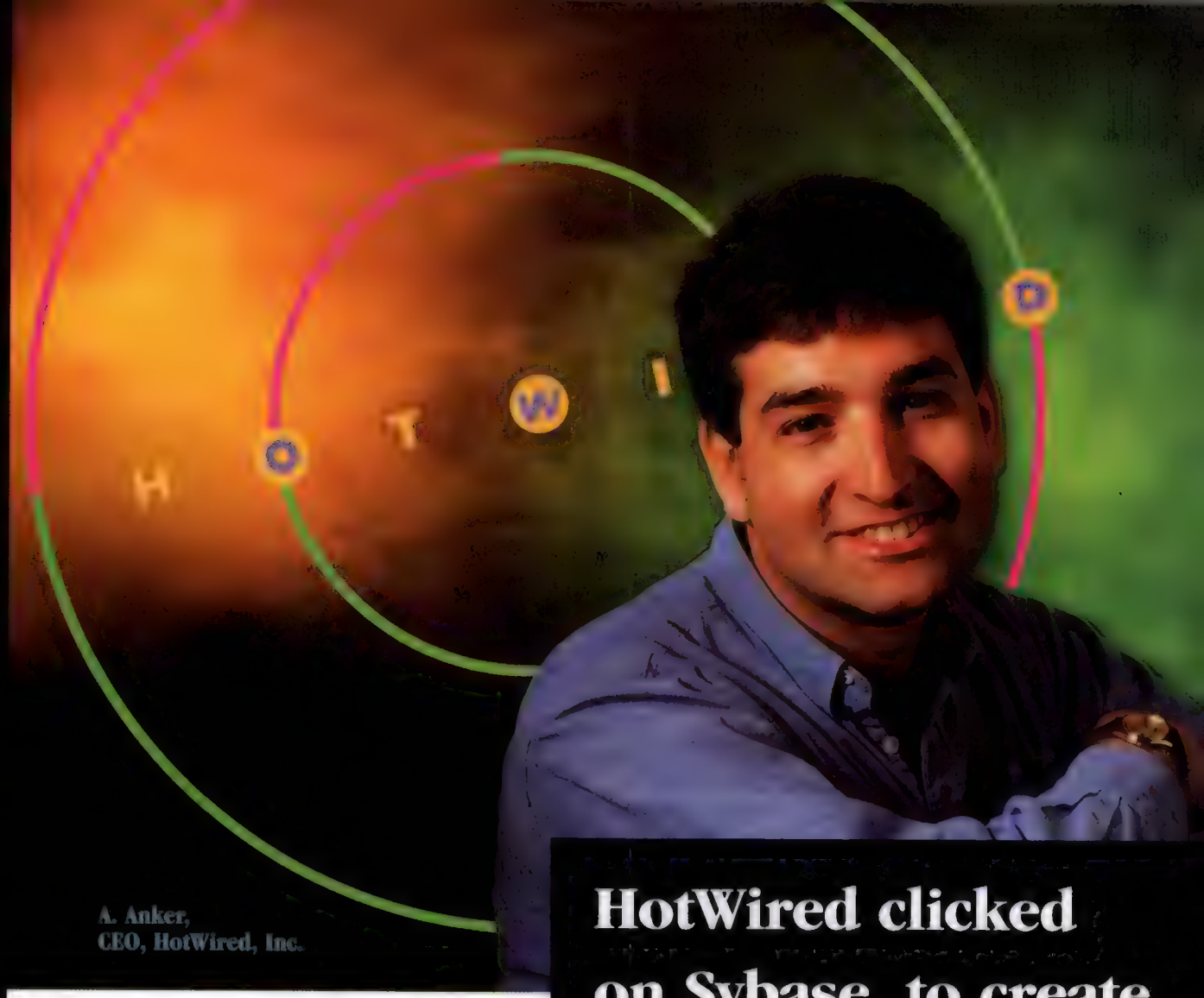
Of course, you can also try out CompuServe's service for free for a month. Just pick up one of the numerous free cover disks.

Web www.compuserve.com
Phone *(0990) 134 819*
Access *Dial-up.*
Cost *£6.50 per month including 10 hours free online time. Further online time and special services are charged extra.*



CompuServe's range of services is useful if you don't need regular access to these databases.

Charlie Harris is a freelance writer on the Internet and the media in general. You can contact him at:
charlie@harris.u-net.com



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Workers Unite

Using the power of the Internet to communicate and work closely with others on the network is an idea whose time has come. Audio, video and text-based collaboration tools are turning the Internet into an environment where companies and individuals can work effectively with one another. Garret Keogh picks the best applications on the market.

With an Internet connection you already have access to the widest area network there's ever been. However, aside from email, most users simply use it for accessing sites and passively browsing the Web.

Corporates may plan to implement company-wide intranet solutions but many are unaware that most of the tools they need are already available, and more sophisticated versions are coming in the next major releases of Internet software from the likes of Netscape and Microsoft.

Years after companies such as Novell and Lotus tried to convince a sceptical audience that collaborative networked applications were the way forward, the Internet community has finally stumbled across the same idea.

Groupware evangelists must be pulling their hair out as Net users finally realise that applications which actually exploit the network might not be such a bad idea. Now there's a global network to supply the infrastructure, browser companies are trying to stake a claim in this market.

Net collaboration

Groupware never went away, it was just slow to be adopted and not as sexy as the mother of all networks. The Internet has managed to move the spotlight away from these products over the last few years but the emphasis is now moving back towards collaborative tools and ways in which the Net can encourage people to work together, regardless of their true location. The Net is desperately in need of a set of applications that make the most of its strengths.

Over the next few pages we'll look at some of the software already available, which allows you to communicate and collaborate with Internet users around the world. Whether it's a point-to-point conversation or a multi-user, application-sharing environment, using the Internet as a collaborative infrastructure makes perfect sense and the tools are available for you to able to exploit it.

We'll be looking at a range of tools, including text-based chat software, Internet phone applications, video-conferencing and true collaborative software.

Some of these tools can easily be adapted by your company or organisation to allow real-time meetings where face-to-face contact is either impossible or unnecessary. You'll also be glad to hear that most of the client software is free and you probably already have the Internet connection and hardware needed. Interacting with other users is the Net's killer application and the tools that already exist make this a practical and realistic proposition.

Text chat

In its simplest form, the Internet supports real-time chat systems such as Internet Relay Chat (IRC). IRC is similar in format to the forums and chat rooms you find in online services like CompuServe and AOL.

IRC was first developed in 1988 and is a multi-user chat system, which uses the concept of channels to allow groups of like-minded individuals to get together. The IRC solution is probably the single simplest collaboration tool,

as it requires the smallest investment in software at the client end. You simply need an IRC client program.

You then connect to one of a number of IRC servers and enter or set up your own channel. It's then simply a matter of typing in the text of your conversation. There are hundreds of existing servers and channels, lists of which either come with your IRC program or can be found online. Useful online resources include:

- The IRC information page at **www.botree.co.uk/library/irc.htm**
- Communication on Internet Relay Chat at **www.uq.oz.au/~ensrinte/ircindex.html** which includes notes on the culture of IRC.
- Yahoo's list of channels at **www.yahoo.com/Computers and Internet/Internet/Chat/IRC/Channels/**

To IRC or not to IRC

IRC isn't really suitable for serious corporate conferencing but it's a quick and dirty way to have an online conversation with other users. Where email conversations can be subject to the delays of servers at either end, IRC's attraction is its speed and simplicity.

However, IRC's popularity may make it unsuitable for corporate conferencing solutions, as hundreds of the chat rooms are filled with trivia, sports commentaries and sex.

Star IRC product

mIRC

mIRC is a shareware IRC client which runs under Windows. The product is easy to install and offers a range of useful features such as full-colour text lines, file transfer capabilities and an intuitive interface. If you're new to IRC, this is the place to start.

Available from www.mirc.co.uk
Price *Free*

I-chat Version 1.0

I-chat is a Netscape plug-in that allows you to take advantage of IRC without having to leave your browser. Using the plug-in is simple and any site that supports the system allows you to interact with other users. The chat window loads automatically and gives you a toolbar and a range of menus. Any URLs that appear in an online discussion are displayed as live links.

The program is constantly being upgraded and later versions of the software will add RealAudio support.

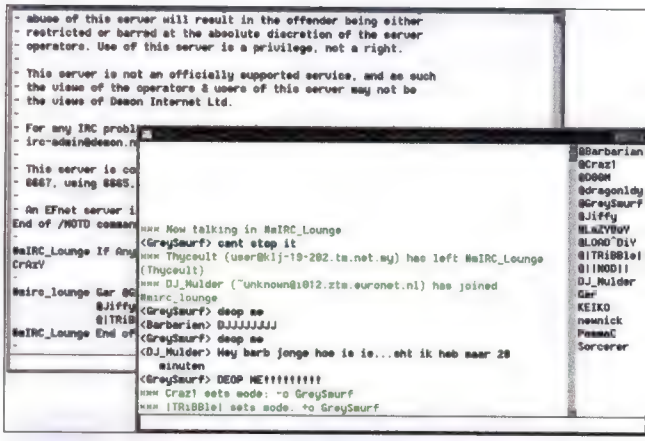
Available from www.ichat.com/
Price *Free*

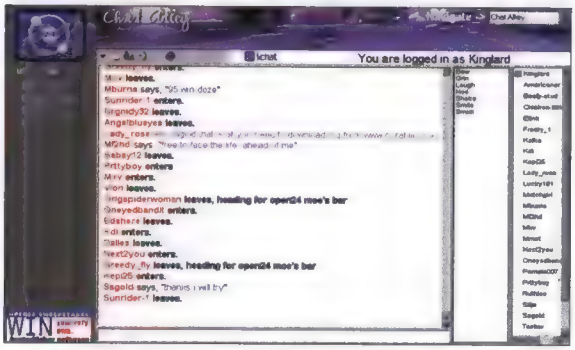
Netscape Chat 2.0

Netscape Chat 2.0 works with the company's Navigator browser. The software supports Netscape's own Community System Chat Server as well as existing IRC servers. You'll find a list of chat servers on Netscape's home page.

Once connected, you're offered the choice of a range of chat rooms. You can also set up Auditoriums that allow one-to-many discussions. A neat feature allows you to send URLs as live links.

Available from http://home.netscape.com
Price *Free*



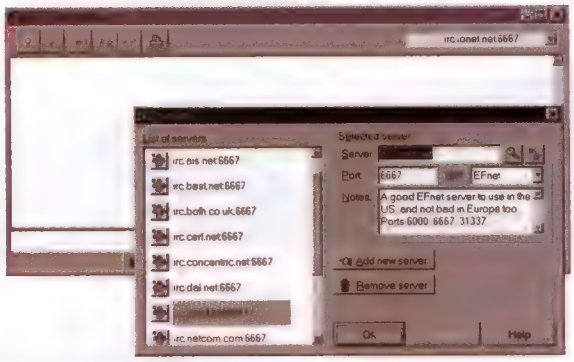


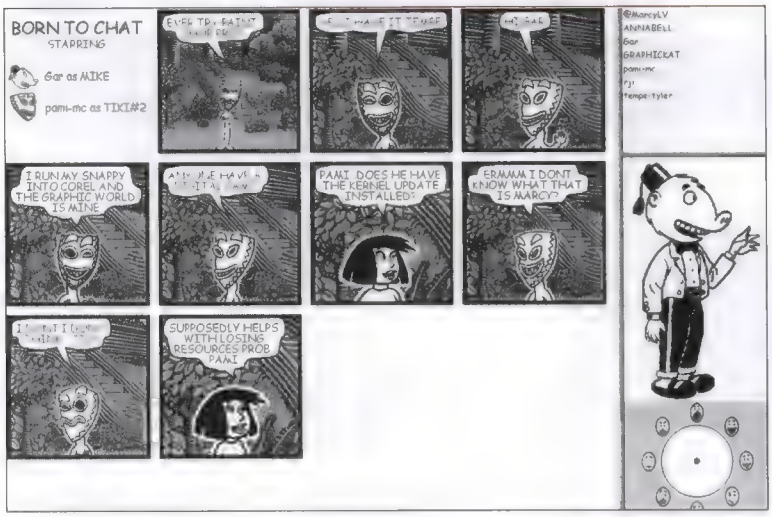
Pictured top, is mIRC, our choice of IRC client.

Below mIRC is I-chat with its attractive interface and toolbar to aid navigation.

Using Visual IRC '96, pictured right, you can not only chat, but you can also send and receive files.

Pictured below, is Microsoft's Comic Chat. Choose your own comic character and hold that important budget conversation!





Chat and whiteboarding

But simple text chat is limited. What if you want to share pictures and data as well?

One option is to use a program with whiteboarding facilities. This gives you a Paint-style Window, visible by all conference participants, where information can be cut and pasted, or added directly to the window.

Reviewed below are our top two chat-based products, which also include whiteboarding features.

Visual IRC '96

Megalith's Visual IRC'96 takes IRC one stage further. Not only does it make it simple to connect to servers, but it can also send and receive files.

The program comes with a whiteboard option that allows you to collaborate on the same shared space. The system also includes a video conferencing and audio chat system.

Available from www.megalith.co.uk/virc/virc96.html
Price *Free*

Look@Me Control

Farallon's Look@Me Control is an ActiveX control based on the company's popular Timbuktu Pro program. Once installed, the program allows you to share your system with other users and edit documents as well as viewing graphics.

Users simply go to the Farallon Web site and add their shared systems to the lists of IP addresses of those waiting to communicate. Once connected, users can simply view each other's PC in a pop-up window or through the browser. But it has to be said, this is not a product for the security conscious.

Available from www.farallon.com
Price *Free*

Graphical chat clients

Manufacturers are also experimenting with adding graphics to the chat environments.

Full graphical environments such as Worlds Chat at www.worlds.net/wc/ and The Palace at www.thepalace.com/ do exist but you might find them a bit too frivolous for those serious collaborative business tasks.

However, with some applications, the graphical element can help to add conversational nuances to the, rather dull, text-only chat world.

Star graphical chat product Microsoft Comic Chat 1.0

Microsoft's Comic Chat takes a basic text chat system and puts a comic book metaphor on top of it. To run the service you need Internet Explorer 3.0 at the client end and Microsoft's Normandy Internet server at the server end.

Each participant in the chat conference takes on the role of a comic book character. There are a dozen to choose from, along with a range of background scenes. Typed-in text appears as a speech bubble above the character's head and each new piece of conversation gets a new frame.

The background perspective constantly changes and you can change your character's facial and bodily expressions easily, from a window on the right-hand side of the screen.

Nuances of speech can be expressed in a number of ways, including thought bubbles, and you can change character and backgrounds mid conversation.

The service is both fast and fun to use and, while it might not be suited to serious business discussions, it's a fun way to interact with friends. You'll find a list of comic chat rooms at www.microsoft.com/ie/comichat/rooms.htm

Available from www.microsoft.com/ie/comichat/
Price *Free*

Virtual Places for Windows 95

Ubique's Virtual Places for Windows 95 is a Web-based chat client that gives you a selection of scenes where you can chat with other users. There's also a diary home page which carries details of the chats taking place and upcoming events.

An avatar represents each participant and you interact via a traditional looking chat window. There are a number of extra features, including the ability to ignore specific participants and view personal details on those in the conferences. Users can also host their own chat rooms.

Available from www.vplaces.com
Price *Free*

Video and audio standards

Any technology that involves communications is bound to a minefield of standards, and audio and video applications that run over the Internet are no exception.

At the heart of a range of standards is the T.120 specifications, published by the International Telecommunications Union (ITU). These standards deal with data conferencing and, in conjunction with the H.320\323 specifications, address the issues of video and audio conferencing. Like many standards, T.120 has been in development for years, but now products based on the specification are starting to appear.

Specific standards include the issue of sharing data across different platforms and operating systems, in both point-to-point and multi-user conferencing scenarios. New additions to the specifications deal with cross-platform file transfers while video conferencing.

The H.323 Recommendation deals specifically with how PCs share audio and video streams over computer networks, including the Internet. H.323 standards can be also be supported by other devices such as terminals or video telephones.

H.323 deals specifically with voice but also specifies data and video so that devices can easily transfer information. Both Microsoft and Intel have a range of products based on these standards.

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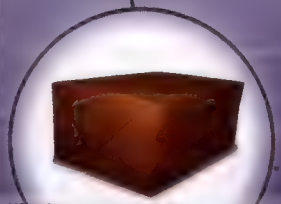

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Voice chat

More bandwidth, faster modems and sophisticated sound cards have meant that transferring audio over the Internet is becoming more practical and is improving in quality, albeit slowly.

When Internet phone and voice chat technologies first arrived they got front-page coverage, as pundits predicted the end of international telecoms companies and the arrival of cheap Internet phone calls. The reality is slightly different.

Real standards have been slow to emerge and users need specific hardware, such as sound cards supporting full duplex audio. We recommend the Creative Labs AWE range of sound cards.

There are a number of different compression technologies for both audio and video data, known as codecs, as well as a number of emerging standards (*see the standards box on page 64*). You need to make sure that the software and hardware, at both ends of the collaborative session, support the same standards. Thankfully, there are a number of systems on the market worth exploring.

Star Net phone product Intel Internet Phone

Intel's system is based on a range of industry standards, including the ITU H.323 standard. The system is quickly becoming a standard itself and Microsoft is starting to integrate Intel's system into its own products. The system also works in conjunction with a number of Internet white-pages services, such as Four11, and Bigfoot.

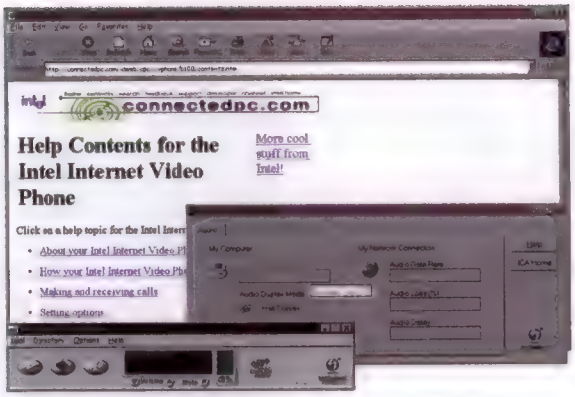
The H.323 standard uses Codec 723 which gives you top-of-the-range audio with compression features.

The product also comes with the Intel Connection Advisor, which sits in your toolbar and listens out for incoming calls.

Available from www.intel.com/
Price *Free*
System Requirements *Pentium processor, full-duplex sound system, 16Mb of RAM and Microsoft Internet Explorer or Netscape Navigator.*

Internet Connection Phone

IBM's Internet Connection Phone has a fairly basic set of features and fails to deliver anything above average sound quality. The system uses a customised codec that claims to compress an 8KHz, 16-bit audio stream into 9,400 bps.



Intel's Internet Phone system is the closest you'll get to an industry-standard in this area of the market.

There are two versions of the package – one that uses IBM's own mWave sound/modem card and one that's compatible with most other sound systems. The system sees who's available to chat via the Phone Server, you simply enter the email or IP address.

The system has won some support in the industry and comes bundled with a range of systems including IBM's own multimedia PCs. The latest version supports the ITU H.323 standard.

Available from www.ics.raleigh.ibm.com/ics/icphone.htm
Price *Free*
System Requirements *486/DX66 (for GSMVQ codec), or 586/DX100 (for G.723 codec), minimum 8Mb RAM, SoundBlaster card or Mwave digital signal processor.*

VocalTec Internet Phone

This is one of the first Internet phone product, from Israeli-based VocalTec. It's based around an IRC system and supports a good range of codecs. The system also works with half-duplex cards. You simply connect, via an IRC server at VocalTec, or dial an email address directly. VocalTec also offers a Global Directory of online chat rooms.

As far as features go, the system can handle text chat, whiteboard and file transfers.

Available from www.vocaltec.com/iphone4/ip4.htm
Price *Evaluation version free, list price $49.95*
System Requirements *33MHz 486 (66MHz for full-duplex), 8Mb RAM, Winsock 1.1-compatible TCP/IP connection, Windows-compatible sound card.*

Quarterdeck WebTalk

Quarterdeck's Internet telephone product comes with all the basic phone features and a few extra goodies.

The system supports a range of codecs and works on company firewalls. You can even specify the address of your proxy server so intranet and Internet conversations are possible.

Available from www.qdeck.com/qdeck/products/webtalk/
Price *$49.95*
System Requirements *486 PC, 14.4 Kbps or higher modem, a 16-bit full-duplex or half-duplex sound card.*

Audio & video conferencing

Adding audio to your online conversations is a great step forward from simple text chat. The next stage is to add an element of video conferencing. This technology is in its infancy and dial-up users will find the quality of images pretty flaky. However, the technology is improving and there are some worthwhile systems out there.

Star video product Enhanced Cu-SeeMe

CU-SeeMe is a freely available multi-point conferencing technology,

Cu-See-Me has its faults but it's still the most reliable of the Net video conferencing solutions.

developed by Cornel University. The system can support 100 simultaneous multi-point conferees.

To run a CU-SeeMe conferencing session you'll first need to install the server software. The system supports all the main codecs and works best over leased line and ISDN connections. Over a normal modem connection you'll find the video can be as slow as a couple of frames per second. The program also comes with a chat applet and a whiteboard feature. Set up can be complex and the frame-rate slow, but this is the most credible video conferencing product available.

Available from www.cu-seeme.com/
Price *Demo available, full version $69*
System Requirements *To receive you' ll need a 66MHz 486 DX or higher, 256-colour (8-bit) video with 640x480 or higher resolution, sound card with 8-bit sound. Minimum 12Mb RAM, Windows Sockets-compliant TCP/IP stack or PPP, bandwidth of 28.8Kbps or better (14.4Kbps for audio only).*
To send you' ll need a video camera with serial port digitiser, or a video camera with standard NTSC output and a video capture board.

IBM's phone software is lacking in features but it is finding its way into IBM's PCs.

Connectix VideoPhone 2.0

Connectix VideoPhone comes from the makers of the popular QuickCAM video camera and offers conferencing facilities for both person-to-person and one-to-many broadcasts.

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The system allows you to connect over both the Internet and standard office networks. The system supports Microsoft's Video for Windows and a decent selection of codecs.

Available from www.connectix.com/
Price £49
System requirements *PC with 100MHz or faster Pentium processor, 16Mb RAM, VGA card capable of displaying 256 colours, Windows-compatible sound card, 28.8Kbps modem and a video capture card.*

Other collaboration tools

The browser companies have got in on the collaboration act. Both Netscape and Microsoft are adding these features to their product lines in forthcoming releases.

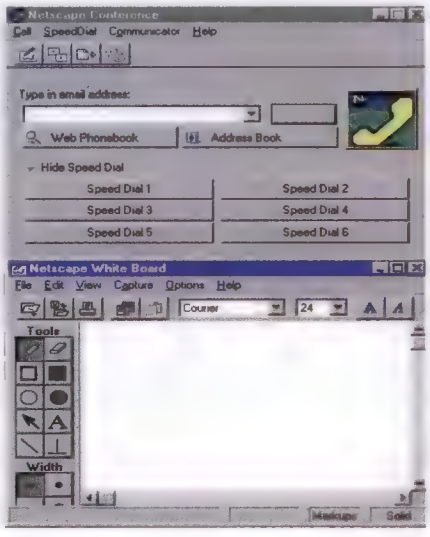
Netscape Communicator not only builds in features from its Collabra range but also integrates Usenet under the banner of a discussion area. Netscape is desperately expanding its product range and it sees collaborative software as the next big growth area.

Microsoft, on the other hand, already has many collaborative features in its products but we'll see these appear as specific Internet products over the coming months. The further integration of the desktop with the browser will also facilitate this. Here are some of the key collaborative tools from the major vendors.

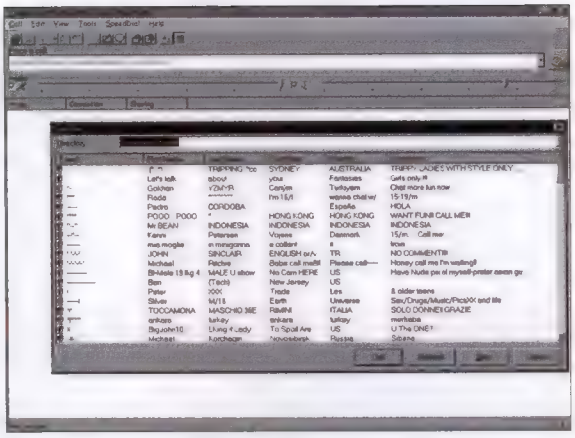
Star product Netscape Conference

Netscape's Conference collaboration tool supports audio, chat, and whiteboard features. What it doesn't offer is application sharing and so it only goes some way to answering your conferencing needs.

The product works simply as a point-to-point collaboration tool. However, as part of the Netscape Communicator software, it's freely available and, in fact, if you look in your bottom right-hand corner of your Windows 95 taskbar you may the product already installed.



Netscape's Conference can't handle application sharing but it is a decent and free tool.



Microsoft's NetMeeting can handle file transfer and whiteboarding.

The system comes with one-touch calling for numbers entered into its address book systems. A tiny application watches the system and launches the software if a call is received.

Advanced features include an answering machine that can even store voice messages, support for online business cards and LDAP functions. The program also comes with basic whiteboard features which allow you to edit and paste images and data.

Available from home.netscape.com
Price *Free with Communicator*

Star product NetMeeting

Microsoft's NetMeeting handles whiteboard, chat, and file transfer features and claims to work over modems with speeds as low as 14.4Kbps. The system also supports the International Telecommunications Union (ITU) T.120 standard (*see standards box on page 64*).

At the heart of NetMeeting is its applications sharing facility. You simply click on the Share icon and select the application you want to share. The application's screen image is then sent to all those in the conference and you have access to the applications tools and the documents contained therein.

The system also comes with a whiteboard which allows users to edit and paste shared images and data.

NetMeeting also has a standard text-based Chat application built-in, although its voice capabilities are only available in point-to-point situations.

As far as extra features go, NetMeeting can handle file transfers and because it supports the H.323 standard it will work with other Internet phone products, from companies such as VocalTec and Intel. If you're looking for someone to call the User Locator Service allows you to connect to other users via voice and\or data. You can also get a beta of version 2.0, which includes NetMeeting calls from Exchange and Outlook clients.

Available from www.microsoft.com
Price *Free*

Internet Conference Professional

VocalTec's Internet Conference Professional offers OLE-based application sharing, whiteboard and chat facilities. Frame, the whiteboarding feature, allows you to have multiple windows open during a session.

The system also comes with an address book that allows you to dial multiple users. Application sharing works via OLE and uses the whiteboard area as an OLE Server.

Available from www.vocaltec.com
Price *$149.95*

OnLive! Talker

OnLive! Technologies' Talker allows you to talk to a group of up to 30 people in real-time via any Web page. It works a bit like an online service forum. You see a list of people included in your conference. Users can speak to and be heard by all others in the conference, with their name highlighted as they speak. Interesting features include the ability to ignore people and the opportunity to view user's profiles.

You can see the software in action in a number of high-profile Web sites, including Epicurious, The Site and Quote.com. If you're looking for an audio chat solution to add to your Web page consider this product.

Available from www.onlive.com/
Price *Free download*

Collaboration is a reality

As you can see from this long list of products there's no lack of choice in this area. Products such as NetMeeting hold the clue to how the market is developing, as basic chat programs first gain whiteboarding and file sharing facilities, then add audio support, with video support on its way.

These tools are the first generation of the applications that will become common place over the next few years. Learn to use them now. Standards will continue to be ratified and the quality of video and audio data can only improve. As browsers and mail clients have shown us, collaborative working is the key to the Net in the next decade.

Garret Keogh is a freelance Internet journalist. Contact him at garret@dial.pipex.com

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Internet Magazine is committed to bringing you the best and most authoritative reviews in the Internet industry. Every month we'll test and rate the most important new Internet products and Web sites. If you're making a buying decision, looking for a Web design company or doing a bit of pre-purchase research, the following pages are crucial.

In Tried & Tested you'll find the latest news on just-announced products, hard-hitting reviews of key product releases, comprehensive Labs tests and details of all the freeware and shareware you should be downloading this month.

To find out how this month's most important Web sites were put together turn to our Sites Surveyor section. Professional Web site builders spill the beans on how they plan, design and maintain their masterpieces.

Star Ratings

★★★★★ Must buy
★★★★ Should buy
★★★ Could buy
★★ Poor buy
★ Don't buy

May 97

Our experts evaluate key new releases

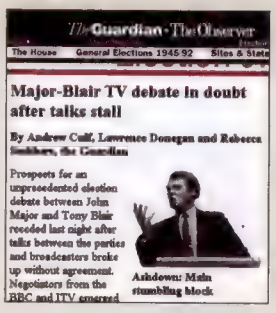
This month's key new products include the latest AOL access software for Mac users, plus new search tools from Verity, AltaVista, Iconovex and Forefront. You'll also find detailed reviews of the Web creation tool, Macromedia Director 6 Multimedia Studio, Netscape's pitch for the corporate intranet market, SuiteSpot, and Adobe's Web presentation package, Persuasion. Pages 79 to 95

May's New Products and Hot Downloads come from this year's Internet World Show in Los Angeles, where the latest and most innovative Internet products are showcased. Pages 97 and 99

Federal Express and TNT: head-to-head on page 112

Logfile analysis tools tell you just who is visiting your site, where they came from and what pages they're hitting. Steve Browne runs seven leading contenders over a willing site, overleaf. Pages 72 to 77

New-Car-Net drove away with May's Site of the Month award. On page 106 our in-house site guru Paul Bennett takes a tour of this month's most exciting and technically advanced sites. The Guardian's New Media Lab General Election pages and the revamped Kiss 102 Radio Station site both feature this month. Pages 109 to 115



Clocks, counters and other freebie add-ons for your Web site make up May's Technology of the Month. Page 97

Who's been looking at your site?

Can any of you Web masters resist the lure of knowing who's been looking at your Web pages? Internet Labs looks at the top seven logfile analysis products on the market and picks a winner.

Don't ignore your logs

If you're in charge of running a Web server, you really must record the logfiles of every connection. These logfiles are full of valuable information – they tell you exactly what pages visitors are looking at and how many visitors you've got coming to your site.

Web server logfiles are fairly standard creatures, thanks to their common background. Thankfully, the logfile entries themselves are not too complex. Below you can see a standard entry which uses the Common Log Format:

```
drammen1201.online.no - -
[19/Mar/1997:10:16:04
+0000]
"GET/whatsnew/archive/
19961106/WN-351.htm
HTTP/1.0" 200 17353
```

The first field is the name of the machine that requested the page. This is followed by the date and time of the connections with details of how that time relatesto GMT

Logfile analysis software – how they compare

Product name	NetIntellect 2.1	WebTrends 3.0	WebTracker	Hit List Pro 2.5	Analog 2.11	WebTrak
Supplier	Web Manage	OpenSoft Distribution	CQM	MarketWave	Freeware	Know It Software
Price	$149	£290	$495	Version tested free Version 3.0 from $1,995 to $2,995	Free	$49 commercial $39 non-profit
Web site	www.webmanage.com	www.opensoft.com	www.cqminc.com/webtrack/webtrack.htm	www.marketwave.com	www.statslab.cam.ac.uk/~sret1/analog	www.know-it.com
GUI/Command line	GUI	GUI	GUI	GUI	Command line	Command line
Runs as an NT service	○	●	○	●	○	○
Log formats handled						
Common logfile format	●	●	●	●	●	●
Combined logfile format	●	●	●	●	●	○
Microsoft IIS logfiles	●	●	●	●	●	●
Netscape logfiles	●	●	●	●	●	●
Apache logfiles	●	●	●	●	●	●
Referrer logfiles	●	●	●	●	●	○
Agent logfiles	●	●	●	●	●	○
Output formats handled						
Output as HTML	●	●	●	●	●	●
Output as text	●	●	○	●	○	○
Output as delimited text	●	●	○	●	●	○
Output as Word file	●	●	○	○	○	○
Output to defined email addresses	●	●	○	○	○	○
Output to FTP addresses	●	○	○	○	○	○
Logfile options						
Stores logfile in database	●	●	●	○	○	○
Loads logfile from disk	●	●	●	●	●	●
Loads logfile over FTP	●	●	●	●	○	○
Additional features supported						
Ability to count visits	●	●	○	●	○	○
Can modify visit time	●	●	○	●	n/a	○
Displays data as tables	●	●	●	●	●	●
Displays data as graphs	●	●	●	●	●	●
Sets up advert links	○	●	○	●	○	○
Monitors click-thru rate	○	●	○	●	○	n/a
Resolves IP addresses	●	●	●	●	●	●
Processes cookies	○	●	○	●	○	○
Schedules reports	●	●	●	●	○	○

KEY: ● Yes ○ No

immediately afterwards. Within the quote marks, the Web server logs the command the client browser issued. In this case, the request was for a standard HTML page, and the transfer protocol used was HTTP. The two numbers at the end of the line are the status code for the transfer, and the size of the document transferred.

From this information, it's easy to see who visits your site, and what pages they're looking at. Nevertheless, although each line isn't very complicated by itself, working your way through a potentially huge logfile, trying to identify who's doing what and when can be a mind-numbing experience.

More data in logfiles

As Web servers matured, extra features have been added to their logging capabilities. There's now another standard log file format, known as Combined Log Format, which stores more detail about each connection. These details include the browser the client is using, and the URL of the site they originally came from.

These two fields are valuable because they help you decide what kind of features are worth adding to your site. For example, should you add Navigator or Explorer-specific enhancements? Or which advertising slots generate the most hits.

Automating analysis

It's important to automate the analysis process, especially if you're working on a commercial site which might need to generate hourly reports. Products that run automatically, and output the results directly as HTML, score well in this area, as it cuts down on the manpower needed.

Analysis difficulties

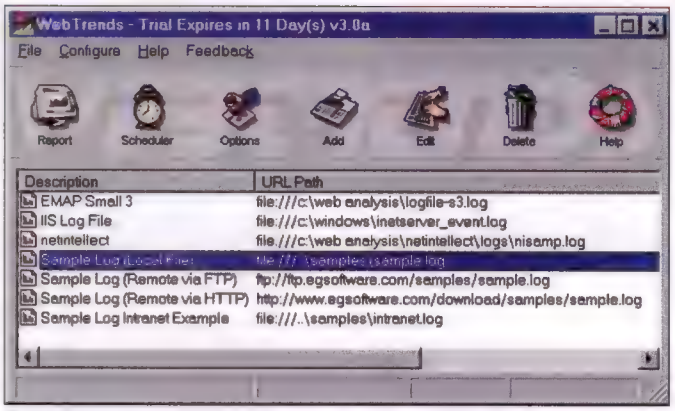
It's easy to assume that these tools will tell you everything about who visits your site, but there are drawbacks. The issue of companies hiding behind firewalls, and having only a single IP address visible to the world means you might have thousands of visitors from a large corporation, all reporting as the same individual. Dial-up access providers can also complicate the reporting process, as they may have a limited set of IP addresses shared between users, so you can never categorically say that a particular IP address is a particular user.

You also need to draw a distinction between hits and visits. Every transaction on a Web site is called a hit; every HTML page, GIF, JPEG, CGI script – everything. Of course, on a busy page, with lots of GIF buttons, you might get 10 or more hits on the server. As a user progresses through your site, they'll create a lot of hits – but they all constitute only one visit. The Internet industry is trying to come up with ways of identifying visits rather than hits. Some of the logfile analysis packages allow you to set a time period in which a reconnection from the same IP address is counted as the same visit. The standard bodies that monitor magazine readership, such as the ABC and BPA, are also working on ways of auditing Web sites.

Although there are many logfile analysis tools on the market, we settled on seven products which reflect the diverse collection of products available. Most of them are Windows-based, menu driven packages. A few are command line utilities designed to run automatically. One is written entirely in Java.

	UW Web Monitor
	Custom Business Systems
	£75
	www.uwsoftware.co.uk/webmon-home.html
	GUI
	○
	●
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	n/a
	n/a
	●
	○
	○
	○
	○
	●
	○
	○
	○
	○
	○

LOGFILE ANALYSIS SOFTWARE



The WebTrends interface is one of the most attractive of all the products in this test.

WebTrends 3.0

Good looking and packed with features, this product is well worth investigating.

WebTrends is the best looking package in this Labs test. The main interface lists all the log files the user has set up profiles for.

Every logfile you want to process has an associated profile, which allows you to customise the processing. The ability to collect the logfile directly means you can process any logfiles on your servers, regardless of operating system.

The product supports a large selection of logfile import formats. You can use filters when processing the logfile, which allow you to include or exclude particular document types, such as CGI scripts, or connections from particular domains.

Under Windows NT, WebTrends can run as a system service, which ensures that it starts every time the system is rebooted. You get a scheduler in the package, which allows you to carry out automatic analysis at designated times. The output from these automated runs can be directed to any of the standard output templates, such as HTML, Word for Windows or Excel.

The output formats are set but it's possible to create and edit report templates. You can add up to 35 data types to a report. These range from activity by day or by hour, through to a breakdown of which browsers have visited your site. Remember your Web server may not be able to log all the details needed for some of the report components, or you may need to change some settings within a configuration file.

To help monitor advertising banners, WebTrends can maintain a list of GIF files and associated scripts, which appear in the logfile when a banner is displayed or clicked on. The program can then create a report, showing how often the banners were displayed, and the click-through rate.

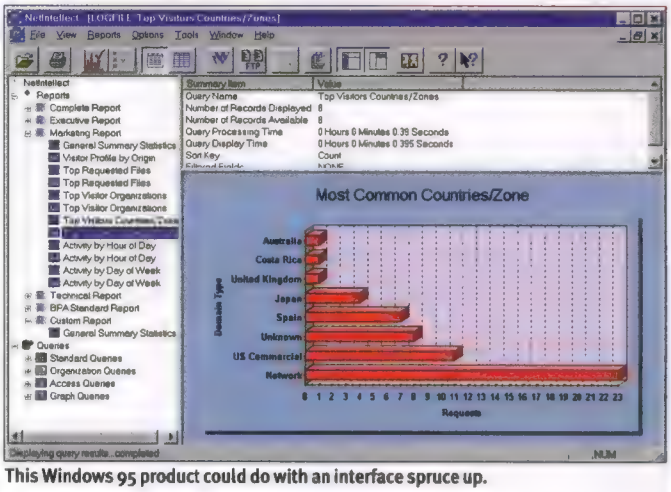
Intranet users also have a nice feature, whereby they can assign a set of logical names to a set of existing IP addresses or domain names that will appear in the logfile. As an example, *Internet Magazine* has a number of external people working for the magazine's Web site, but connecting through different service providers. Using the Intranet Configuration dialog boxes, the administrator could set up a virtual intranet by getting WebTrends to remap `machine.provider.co.uk` to `internet-mag.intranet.net`. This would mean that any site, or set of sites (*.provider.co.uk), listed in the logfile would appear in the analysis graphs as `internet-mag.intranet.net`, ensuring they can be viewed as a single unit.

WebTrends is an easy-to-use analysis tool. Additional files, such as the WebTrends company database, which allows the product to compare a list of companies against domain names round off a very professional product.

★★★★☆

WebTrends 3.0
Price *£290*
Pros *Good interface, professional and easy to use.*
Cons *Hitlist has more features.*
Download size *3.5Mb*
Platforms supported *Windows 95/NT*
Contact *OpenSoft Distribution*
Web www.webtrends.com/ www.opensoft.co.uk

LOGFILE ANALYSIS SOFTWARE



This Windows 95 product could do with an interface spruce up.

NetIntellect 2.1

NetIntellect may well be packed with features, but it's held back by its interface.

NetIntellect is a Windows 95-based tool, but it falls down in how it presents the data in the logfiles. When it's launched, the user is faced with a blank screen, the only option is File, Open. Choosing this displays a dialog box where you select the file, the Web server's address, the format of the logfile, and the country the Web server resides in.

After processing the logfile, NetIntellect presents the information in a three-paned window. On the left is a tree view of the reports and queries available. You can create new reports by simply right-clicking on one of the existing reports and selecting the new report option.

The extra queries, covering some of the more esoteric reporting areas, such as Errors by Time, and Activity by File Content can be added to either the Custom Report, or one of your own reports.

The second panel is a small horizontal panel on the right. This lists the settings for the current report, visible in the third pane. The third pane is the most useful, as this is where the reports are displayed.

Queries are either based around tables, or graphs, the appearance of which can be changed.The properties of each report can be modified easily, with the sort order and formats for data and time selected from dropdown list boxes.

You can set up automated reports, thanks to the built-in scheduler. The first screen allows you to select the paths for the logfiles that will be reported on. There are three fields, one each for the Access log, the Agent log and the Referrer log. Paths for the logfiles can be given as either filenames on an accessible drive, or as an FTP pathname. The second page is where you choose what happens to the final report, after processing. The available options are to either save the report directly to disk as HTML, upload it to an FTP server, or even email it to a given address.

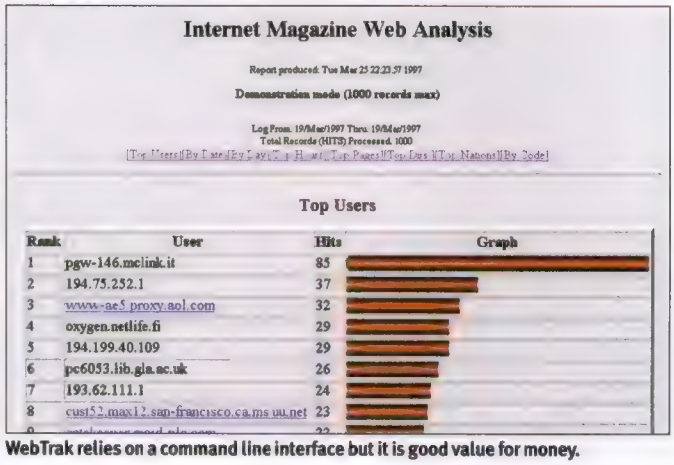
The final few pages of the wizard allow you to specify the starting date for the scheduled entry. The smallest time gap allowed between running automatic reports is one hour; not many site administrators are likely to want more detailed reporting than this.

NetIntellect has the feel of a fairly basic program. Compared to some of the other Windows-based analysis tools, especially the extremely polished WebTrends, NetIntellect looks like a product from the early days of Internet utility software. It really needs an update to compete in this crowded market.

★★★☆☆

NetIntellect 2.1
Price *$149 + $25 airmail*
Pros *Outputs reports in a good selection of formats.*
Cons *Unsophisticated interface.*
Download size *7.7Mb*
Platforms supported *Windows 95/NT*
Contact *Web Manage*
Web www.webmanage.com

LOGFILE ANALYSIS SOFTWARE


Internet Magazine Web Analysis

Report produced: Tue Mar 25 22:23:57 1997

Demonstration mode (1000 records max)

Log From: 19/Mar/1997 Thru: 19/Mar/1997
Total Records (HITS) Processed: 1000

[Top Users][By Date][By Day][By Hour][Top Pages][Top Days][Top Nations][By Code]

Top Users

Rank	User	Hits	Graph
1	pgw-146.mclink.it	85	
2	194.75.252.1	37	
3	www-ae5.proxy.aol.com	32	
4	oxygen.netlife.fi	29	
5	194.199.40.109	29	
6	pc6053.lib.gla.ac.uk	26	
7	193.62.111.1	24	
8	cust52.max12.san-francisco.ca.ms.uu.net	23	

WebTrak relies on a command line interface but it is good value for money.

WebTrak 1.4.4

If you can handle command line controls then this is a budget-priced option that's definitely worth investigating.

Know-It WebTrak is a 32-bit command line analysis program, designed to run unattended on an NT server, or a Windows 95 machine that can see the logfile across a network.

The main program is a mere 200Kb (smaller than the uninstall program) and only relies on a parameter file and a tiny GIF, used to build the graphs.

When you run the program, WebTrak asks for an input filename and an output filename, and then processes the report – extremely quickly. As an example, the 1,000 limit imposed by the freely available version of WebTrak will process in about one second. When you register the product (for a very reasonable $49) you get a code number that allows the product to cope with much bigger logfiles (the registered version claims it can handle unlimited sizes of files).

In a server environment, you can type in a number of parameters to the parameter file. Some of these are performance related, such as the ability to give WebTrak a lower priority, so it doesn't interfere with other work happening on the server, whilst others are cosmetic, such as the title of the report and the size of the sections within the report.

The automatic look up of IP addresses option can be disabled, although any IP addresses which are resolved are stored in a temporary look up file, which is saved between sessions. This means that, over time, the processing will get quicker, as many of the IP addresses of regular visitors are held locally.

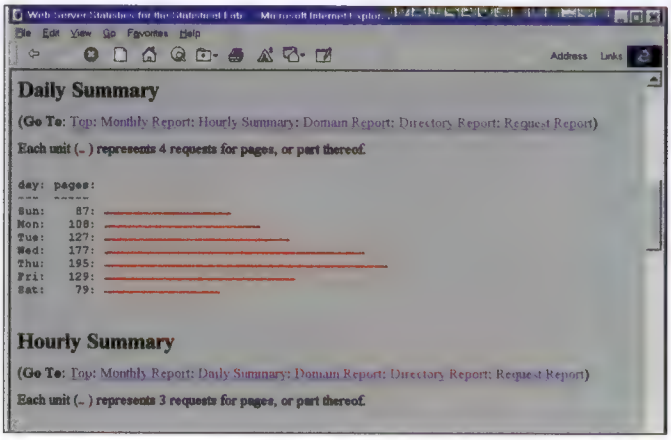
The documentation, a Word for Windows file, is sparse. But at least it covers all of the parameter fields available so you're not left guessing at what can and can't be done.

WebTrak is a simple, but effective server-based tool. However, the program doesn't produce a huge amount of output. It's limited to the standard logfile details: visitor addresses, date, day, time, pages retrieved, directories accessed, country of origin and server response code.

More report sections, and the ability to include or exclude them are promised for the next version of WebTrak, although that would, to a certain extent, detract from the current simplicity of the product.

★★★☆☆

WebTrak 1.4.4
Price *$49 commercial / $39 non-profit groups*
Pros *It's cheap.*
Cons *Set up is done via a text file and it's limited to standard log file fields.*
Download size *735Kb*
Platforms supported *Windows 95/NT*
Contact *Know It*
Web www.know-it.com



Analog is a bit tricky to set up but it does have lots of configuration options.

Analog 2.11

A command line logfile analyser that's a bit tricky to set up but at least it's free.

Analog is a popular logfile analysis program, that pops up on loads of Web sites. The authors have recently released a command line version compiler under the Win32 API, which means it can now run on Windows 95 or Windows NT. Even better news is the fact that Analog is completely free.

Because it runs as a command line program there's no nice interface. You have to edit a text file, which contains the settings for Analog. These settings can be over-ridden by the command line parameters, but for most people, the ability to set up a standard report format, and leave Analog to run according to the NT or Windows 95 schedulers is all you need to do.

The configuration file consists of more than 150 different commands which control the settings used when creating the tables and the graphs used in the report. Historically, Analog has been a Unix-based tool, so the configuration file may seem a little strange to Windows users, but thanks to the detailed readme file you shouldn't have too many problems getting Analog set up.

The configuration options are flexible. Different sections of the report can be left out, the text surrounding the report can be added to or modified – even the characters and graphics used to display the graphs can be changed.

By default, the output comes as standard HTML pages, but there's a option to output as delimited values. This means the report can be loaded into package like Excel, for example, for more analysis or manipulation.

When Analog begins processing a logfile, it automatically identifies what kind of logfile it's looking at. Although its support for different formats isn't as good as some of the other utilities listed here, it supports the main formats. The ability to analyse the NCSA/Apache combined log formats, or the individual access, referrer, agent and error logs means that Analog can display results based on which browsers have been accessing your site, and where they actually came from.

Analog is an application that has been in the field for some time now, and the speed of processing (about 4 seconds for a 15,000 line, 2Mb logfile) shows how much work has been put into the program. The program is completely free and that's an added bonus, as is the availability of the source code. The author, Stephen Turner, has, admirably, taken the Internet ethos of free software and stuck to it.

★★★★

Analog 2.11
Price *Free*
Pros *It's free, it's very popular and has lots of configuration options.*
Cons *Set up is done from a text file and there's no scheduler.*
Download size *380Kb*
Platforms supported *Windows NT/9 reviewed (many others available)*
Contact *University of Cambridge*
Web www.statslab.cam.ac.uk/~sret1/analog

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[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible] Minimum 12 months subscription. Prices exclude VAT.
To maintain ownership of an Internet name £30pa is payable to the central registry

NetBenefit
10–11 Clerkenwell Green
London
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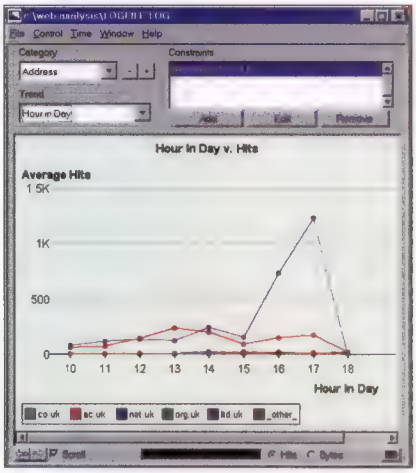
Telephone 0800 592755
Facsimile 0171 336 0567
Email: sales@netbenefit.co.uk
Auto register on http://www.domainnames.co.uk
http://www.netbenefit.co.uk

NETBENEFIT

LOGFILE ANALYSIS SOFTWARE



WebTracker has some interesting reporting options, but the interface could do with an overhaul.

WebTracker

Work needs to be done on Web Tracker's interface before it's a real contender.

Web Tracker is a Windows-based logfile analysis utility with some unique features. As with WebTrends, you need to pre-process a logfile before you can run reports and begin analysing the data. You do this by either choosing the Log/New Source menu or clicking on the big green cross on the toolbar.

The logfile can either come direct from disk or you can download it from an HTTP or FTP server. Only five logfile formats are supported, although they're all fairly generic and so should cover the output of most Web servers with the right settings. One nice feature is the ability to sample a logfile. This does mean that the final report won't be as accurate as it otherwise would be, but it does allow you to spot trends in very large logfiles.

After pre-processing, you can begin to create and view reports. The simple way is to just work through the Chart menu, which contains a number of useful standard charts, such as daily activity, top pages/files accessed and the countries your visitors are coming from.

If the exact report you want isn't on this menu, you just double-click on the logfile name, which takes you to a graph creation dialog box. This dialog box allows you to select what data you want to display, and also to apply constraints, so you could, for example, exclude all local users from the data, so your reports are not skewed.

Web Tracker included a type of graph I hadn't seen in any other products – a map of the world, with varying size blobs denoting the traffic to your site from each country. Although it's not particular useful when managing a Web server, these figures can certainly be used to show the marketing department where your traffic is coming from.

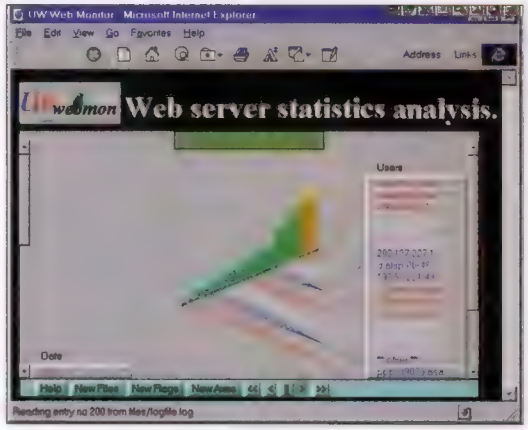
Every graph can either be saved as a GIF, incorporated into a presentation, or can be exported into an HTML page. To automate the process, Web Tracker has a scheduler that can create reports on a daily basis. As each logfile is selected from the existing reports, the output report should always be up-to-date.

At times, Web Tracker feels like an experiment into user interface design that's failed. Scroll bars, buttons and menus don't always work quite as they should, and the File Open dialog box should be completely rewritten. What's more, the updates of the dialog boxes seems slow, even on fairly high-specified PCs. A more polished and speedier finished product would have been possible if had been written in Visual Basic, or even C++.

★★★☆☆

Web Tracker
Price *$495*
Pros *Good selection of graph types and you can sample logfiles.*
Cons *Slow and quirky interface.*
Platforms supported *Windows 3.x/95/NT*
Download size *3Mb*
Contact *CQM Inc*
Web www.cqminc.com/webtrack/webtrack.htm

LOGFILE ANALYSIS SOFTWARE



Writing a Java applet has its benefits but it does mean fewer capabilities.

UW Web Monitor

This Java-based logfile analysis package might be small but it's lacking in features.

UW Web Monitor is unique in this review – it's written entirely in Java. The program is supplied as a set of Java classes and because it's essentially a Java applet, it can be viewed in any Java-compatible browser.

The program comes with a handful of online help files and the files you need. There's no installation program, just unzip the archive, load up the solitary HTML page which then loads up the Java class, and displays it in your browser. Ten buttons sit at the bottom of the screen; five of these are used to reposition the chart in the main part of the display, while the others allow you to select a new logfile, change the axes to be graphed, and choose which flags to display on the graph.

To access a logfile, you need to edit the raw HTML code, and add the correct parameter for the applet. It's not ideal but it's a necessary evil because of Java's security handling. Once the names of your logfiles have been added, they'll appear in the New Files File Open dialog box.

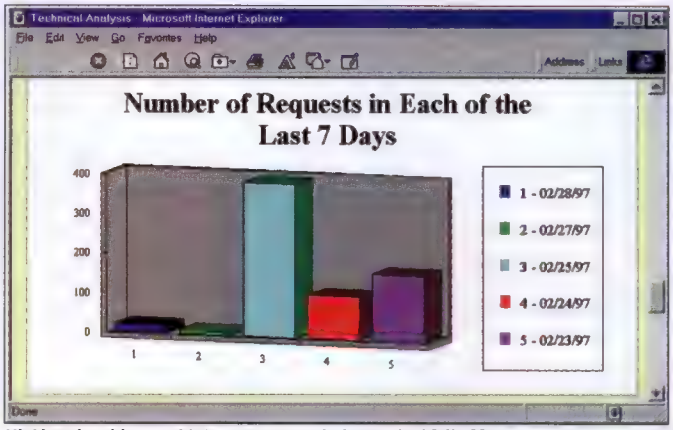
During the File Open process, you're asked which two parameters should be graphed – the choice of Users, Sites, Date, Hour and Week day isn't massive, but covers the main areas. If you choose any of the time/date related options, more dialog boxes pop up allowing you to limit the graph to certain days or times. Clicking on OK will then draw the graph with your chosen settings. Or at least it should, the update of the display is pretty lax at times.

Once you're faced with a graph of your choice, you can either rotate the image, which doesn't actually help much, or click on one of the data items. Clicking anything, either the labels, or the top of a bar in the graph, will drilldown into more detail, if it's available. As an example, if you graph users against time, you'll be able to see everything in graph format, or a more exact listing of the actual bytes transferred, by clicking on either the remote system name, or its corresponding graph item. Each of these detail screens have a small info link, which lists all the data held about each connection from that computer.

It's hard to say whether UW Web Monitor is likely to be of any use to many people. The fact that it's written in Java will, of course, mean that Web masters using a variety of operating systems will always be able to examine the log details, but it does mean a big sacrifice in both the look and feel of the application and in its breadth of features.

★★★☆☆

UW Web Monitor
Price *£75*
Pros *Works across all Java-compatible platforms.*
Cons *Suffers from the Java interface; the set up process can be a bit tricky.*
Platforms supported *Java*
Download size *1Mb*
Contact *Custom Business Systems*
Web www.uwsoftware.co.uk/webmon-home.html



Hit List wins this month's Best Buy Award – it's packed full of features.

Hit List Pro 2.5

Hit List should be at the top of any Web masters shopping list. It's a fully featured analysis package.

Hit list is the most feature-rich product in this round-up, and is aimed at active commercial Web servers, where many people need access to logfile reports. The ability to add support for remote users to run their own reports is an excellent addition.

The main window is a view of the default reports where you can add your own own special reports. The look and feel is very Windows 95/NT.

Most of the general settings for Hit List are contained within a dialog box. The logfiles Hit List looks at can be grabbed from a disk file, or from an FTP connection; multiple log files can be set up, so that one analysis machine could grab logfiles from a number of different servers.

Specific processing settings are modified in the Database Manager. Here, you can set up various logical connections between items likely to appear in the log files. In the Site Name Groups tab, you can group together remote machines, so that they appear as a logical entry in a report. For example, you might define a group called Search Engines with the addresses of Lycos, Alta Vista, Yahoo and any others that visit your site as a result of going through a search engine.

Advertising banners can be handled separately. The names of adverts, banner files and the actual click through URL can be set up.

Hit List imports every logfile it's pointed at to a standard Jet database, which means the program itself is simply a specialised database front-end. Logfiles can either be grabbed from a disk file, for most cases, or direct from an ODBC database, useful for IIS users logging direct to SQL Servers.

Report generation can either be manually set to run or you can automate and schedule the process.

Remote users can generate their own reports by completing a standard HTML form, and submitting it to the IIS server. This will then generate the report, using the parameters set. No modifications to either the database or server disk will be made, so it's a safe way of giving some control to the users.

Hit List Professional 2.5 is a very capable, powerful piece of software, and should be top of the shopping list for anyone running a busy Web server.

★★★★★

Hit List Pro 2.5/3.0
Price *Enterprise edition 3.0:/$2,995*
Professional edition 3.0/$1,995
Standard edition 2.5/Free
Pros *Excellent features; fully featured free trial copy; remote access to reports.*
Cons *Sadly, the full version is expensive.*
Platforms supported *Windows 95/NT*
Download size *7Mb*
Contact *MarketWave*
Web www.marketwave.com

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	Monthly £15
Domain name + email [M] + web server*	Set up £90
	Monthly £25
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Email forwarding (multiple user account [M])	Monthly £15
Web server	Set up £50
	Monthly £20
Email [M] + web server	Set up £90
	Monthly £25

Minimum 12 months subscription. Prices exclude VAT
To maintain ownership of an Internet name £30pa is payable to the central registry

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Netscape SuiteSpot 3.0

Two years ago having a Web site was cool. Today it's 'me too'. The demand now is for effective communication and information sharing.

Enterprises are looking increasingly at both their internal communications and to communicating with the outside world of clients and suppliers. That old Web campaigner, Netscape Communications, has released SuiteSpot version 3 to meet the demands of big corporates. I took a look at a late beta.

SuiteSpot is an integrated suite of server software which forms the basis of a full intranet set up, as well as keeping the door wide open for common or garden Internet publishing.

Building on the standard Enterprise Server product, SuiteSpot version 3 includes calendaring and scheduling, document management, discussion forums, email, plus the latest audio streaming technology. The product allows you to publish HTML documents from virtually any desktop in an intranet quickly and easily. And the LiveWire technology allows you to link into big legacy databases.

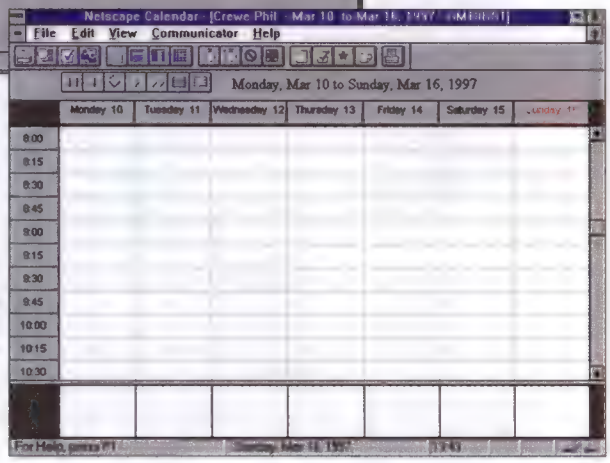
To persuade companies to move over to Netscape products, the company is offering an Enterprise Migration Program. The Migration program helps corporates design, prototype and put Netscape products into action. Without a doubt, Netscape is after your intranet.

Server products

Netscape Enterprise Server is the next step on for the company's traditional Web Server. The product allows you to manage both your content and your network-based applications.

Enterprise Server includes seamless support for Microsoft Office, and hooking up to legacy systems. So, not only does it allow the sharing of an enterprise's internal information with employees, but it also means that any piece of information can be made available to the Internet masses.

Netscape Message Centre showing integrated mail and news services and the email user interface.



The Netscape Calendar interface.

Add to this the Netscape media server, and you've got an audio publishing and broadcast system designed to make it easy and cost effective to deliver audio enabled content and applications. It's capable of delivering high quality audio at relatively low bandwidths, and of integrating easily with a textual and graphical environment. It's now easy for a marketing guru to make a product brochure – including audio and visual clips – available enterprise-wide.

The Netscape messaging server has got email in its sights. It's a fully featured, SMTP-based messaging system, built on LDAP-based directory services. It also has messaging quotas for the network administrator, SNMP management and security features which use open standards client certificates.

The end product is a robust messaging system with low administration costs and high scalability. What's more it includes an application programming interface for developing specific, enterprise-based, mail transport applications.

Planning your day

Once you've installed messaging, workgroups will want to share a calendar. The Netscape Calendar Server is a scalable, high-performance server designed to allow meetings to be scheduled, and resources and tasks to be co-ordinated. Users can schedule meetings in real time, and can view and manage other users' calendars (if they've got the appropriate access rights, of course).

The server integrates with Netscape Calendar (which comes as part of Netscape Communicator Professional), to allow organisations to create an integrated enterprise-wide calendaring and scheduling solution, with all the administration done centrally.

Who's who?

With all this messaging infrastructure, two issues emerge. First, how do you find who you're looking for? And second, how do you check they are who they say they are?

Netscape Directory Server is essentially a telephone directory built to store, query and manage directory information such as names, telephone numbers, email addresses and certificates. This information is then secured using access control lists and a secure socket layer (SSL).

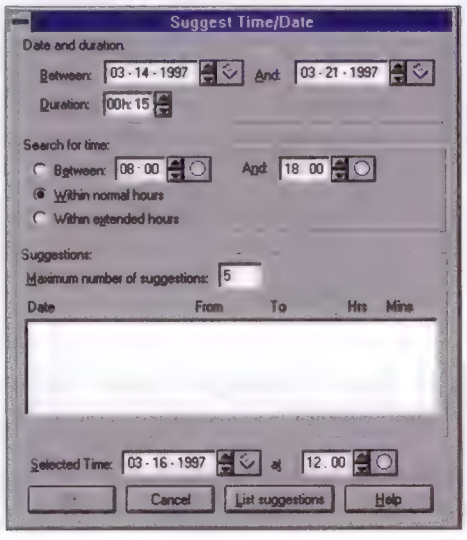
The Netscape Certificate Server allows you to create and manage a public key infrastructure to authenticate clients and servers, using digital certificates. It also allows users on the intranet to be verified for access to corporate information. The product uses the industry standard RSA Digital Signature Algorithm for software signing, and has a built-in relational database, which makes it both scalable and high performance.

Of course, exchanging messages is only one aspect of a group-working system. Collaborative discussions and knowledge bases are also key.

This is where the Netscape Collabra Server fits in. This is a discussion server with built-in encryption. It combines the discussion capabilities of CollabraShare with an NNTP Netscape News Server, making collaboration and knowledge sharing a doddle. Users can create and manage discussions. There's access control at the discussion forum level, so that workgroups can be sure their online discussions are kept confidential.

Bring in the management

Next, you need access to legacy data and tools to manage this great new system. This is where Netscape LiveWire Pro comes in. Lurking here you'll find a Site Manager, Job



Creating a new appointment in the Calendar allows the server to suggest suitable dates and times for a meeting based on the diaries of the attendees and the resources needed.

Script Compiler, Database Connectivity for existing databases such as Oracle, Informix, Sybase, and ODBC-enabled databases, plus site templates. It's a powerful tool for building and controlling complex, dynamic Web sites and yet still manages to provide a springboard from which an enterprise can build, using the Informix online workgroup database included.

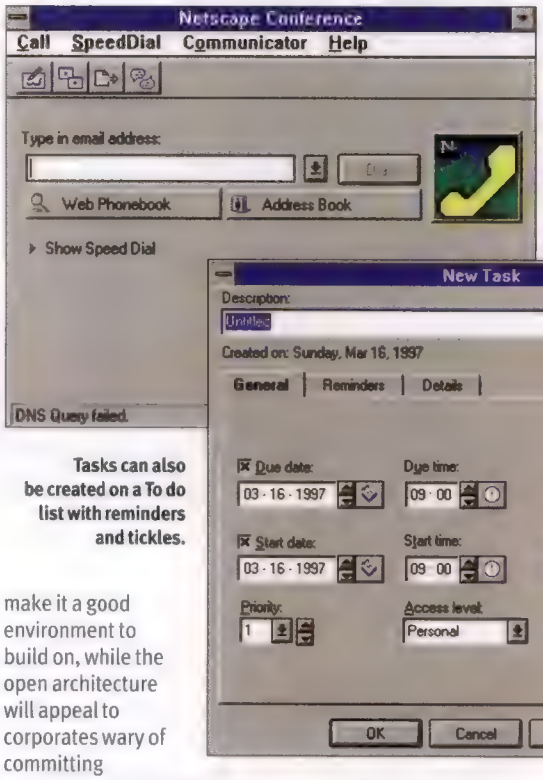
So, who has the unenviable task of providing and controlling all of this information?

Well, the Netscape Catalogue Server is an automatic search and discovery server, which allows you to create, manage and catalogue online documents both on an intranet and on the Internet. This gives you a single point of access to information in the enterprise, so reducing network traffic and time wasting by circumventing the fruitless trawl that most users experience on their hunt for information.

And finally, what does the system do for existing enterprise users who use the Web to access information? The Netscape Proxy Server replicates and filters Web content providing an access control, filtering and virus scanning layer to make sure that the stuff downloaded from the Web is safe. Performance is good as it can cache up to 128Gb of data.

Should you buy it?

The range of products thrown into this suite should be able to solve most normal (and even some abnormal) enterprise problems which crop up as a result of the types of information available on the corporate intranet. The security features built into the suite will also make it a good environment to build on, while the open architecture will appeal to corporates wary of committing themselves to a proprietary technology. And the collaboration tools, which come courtesy of the Collabra Server, should allow groups to work together effectively.



Netscape Conference allows you to collaborate with other users on the Internet.

Tasks can also be created on a To do list with reminders and tickles.

The range's main competition (Lotus Notes and Microsoft's Internet solutions) will certainly have to take a close look at the functionality built into SuiteSpot and think about some upgrades of their own.

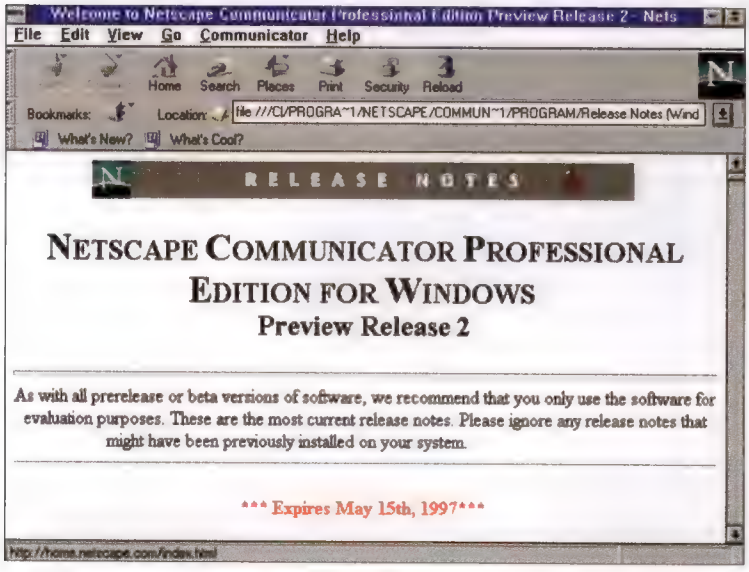
Hey, sort out installation

However, it has to be said that the installation was hardly straightforward, and at times it was downright painful. This may be indicative of a pre-release product, but we should remember that this, fundamentally, is a set of jigsaw pieces working together to produce a solution, and so it may equally reflect the product's complexity. Certainly installing all-in-one software , such as Lotus Domino, didn't generate anything like the problems I had with SuiteSpot.

In many cases, the SuiteSpot software would take several minutes to prepare itself for installation and then start on a 15-minute installation process only to fail at the end.

The really frustrating thing is that it would fail over something which could easily have been checked at the start, such as whether a browser was installed or not! To make matters worse if the installation process hasn't been perfectly completed you might find yourself re-installing the software completely.

This happened often enough to be worrying. It's also worrying in a product which is made up of so many separately installed components, where the likelihood of installation failure is that much greater.



The browser in Netscape Communicator Pro has a slightly different look and feel but the user interface will be familiar to everyone.

Where it fits

There's no doubt that Netscape needs this product just as much as Lotus, Microsoft and even Novell need their workgroup communication suites to be accepted.

Netscape's browser market share is declining fast because of competition from Microsoft Internet Explorer, and it'll be interesting to see the upcoming, no-holds barred battle, between Communicator and Internet Explorer version 4.

Netscape's focus now is very obviously on email, intranet services and the extranet. This vision makes good business sense. The market is big and growing rapidly. However, the four main vendors in it – Lotus/IBM, Novell, Microsoft and Netscape – probably won't find enough business to fund their own large enterprises, and it'll almost certainly result in one of those four failing to make an impact in this market.

In for the long haul?

The set of features contained in SuiteSpot, along with the presence of Netscape in the browser market, should ensure that it does well. However, the installation issue needs to be ironed out before I'd be prepared to stick it on the corporate shortlist.

★★★★

Phil Crewe

SuiteSpot version 3 beta
Price *No UK pricing details as yet, although version 2 retails at £2,995. US pricing allows a choice of any five servers from nine in the suite for $4,995*
Pros *A suite of servers which should address all the requirements of most intranet systems. Integrated calendar and scheduling system with Communicator Pro. Good connectivity to all that old data you might want to use on the Net.*
Cons *Installation is a big worry. Having to connect these servers together may be daunting.*
Minimum System Requirements: *Windows NT Server v3.51 with Service Pack 4 or later, Pentium-based machine, 32Mb RAM, CD-ROM, 50+ Mb hard disk (depending on the servers installed)*
Contact *Netscape*
Phone *(001 415) 937 2555*
Web www.netscape.com

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AltaVista Search My Computer

Add Web search features to your desktop with this AltaVista extension.

Searching the Web is easy really. You just collate data on more than 800,000 Web sites and index it before letting thousands of users simultaneously send crawlers out all over it. You then build a front-end intuitive enough to refine searches and rate pages. Then you put it on a Web site and call it AltaVista. And then your parent company, in this case Digital, spins you off as a separate company. Then, all of a sudden, it's payback time.

AltaVista's attempts at making its mark are contained in its Onsite Computing effort. This whole exploit is an attempt to take Web features and place them on the personal desktop and the private intranet. That way, their thinking goes, Web users too lazy to type in URLs who usually enter AltaVista as a matter of course, will have to pay for the pleasure. This is not to say that AltaVista will cost – far from it – but extensions to AltaVista due during 1997 definitely will.

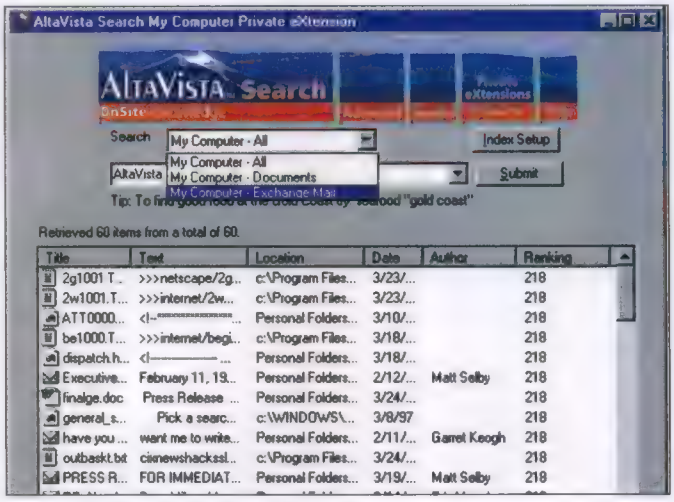
The first of these extensions is AltaVista Search My Computer Personal. Quite simply, it allows you to search your personal files, or files shared on a closed network, with the same AltaVista interface. Where you're used to searching the Web and Usenet options in the search interface, you'll now find three more options – search mail documents, search computer documents and search combined mail and computer documents. As with Web pages, search terms for documents and mail messages are presented as hotlinks in the interface.

The program is a slimmed down version of the Scooter utility that carries out searches of the massive AltaVista database. After downloading it, a hefty 4.2Mb transfer, the program needs some time to perform an index on the host desktop. On my PC, which has only 400Mb of information and a tiny mail file, the index took 28 minutes to itemise the 6,000 items and over 4 million words. Nevertheless, it provides a quicker search tool than the ones available in the desktop and you can use the full AltaVista feature set to refine the search.

My Computer Personal Extension marks a further extension of AltaVista's near-total hold on the search engine market. And, if you're quick, you can get it as a free beta.

★★★★☆

Mike Bracken



All the AltaVista search tools are now available on your desktop.

AltaVista Search My Computer Personal Extension
Price *$29.95, beta free*
Pros *Adds Web search features to the desktop, browser agnostic.*
Cons *Unclear configuration file.*
Contact *AltaVista*
Platforms supported *All that support a browser*
Phone *(00 33 1) 6986 1298*
Web www.altavista.com

WebSeeker 3.0

WebSeeker uses the combined forces of 100 search engines to increase accuracy.

It's taken a long time for the penny to drop in many search engine companies – it's not the number of search terms recovered but the way they're delivered that's important.

AltaVista seems to have discovered this since its split from Digital (*see above*), but one company that has known it all along is ForeFront. WebSeeker 3.0 is the latest version of its search tool and, with its ability to search more than 100 different search engines simultaneously, it certainly delivers.

Like many Internet utilities, you get what you put in, and WebSeeker 3.0 has made it easier to enter the right kind of search terms. There are still three types of search – Instant which removes duplicates, Clean Find, which removes duplicates and FilterFind which indexes the information. You can now also search using And, Or, phrase and substring commands. The search entry box also allows you to choose which engines to use, or even add ones not included, up to a maximum of 100.

As with its sister product, WebWhacker (*see page 91*), this program is integrated into Microsoft's Internet Explorer browser. Search results are presented as an HTML file within the browser, and WebSeeker can be launched from the browser's search button. This means it's possible to drag-and-drop search results to the desktop, or a printer.

The best new feature is the abstract view, which allows you to see an abstract of the Web page within WebSeeker. So you don't have to switch to the browser to view the search result.

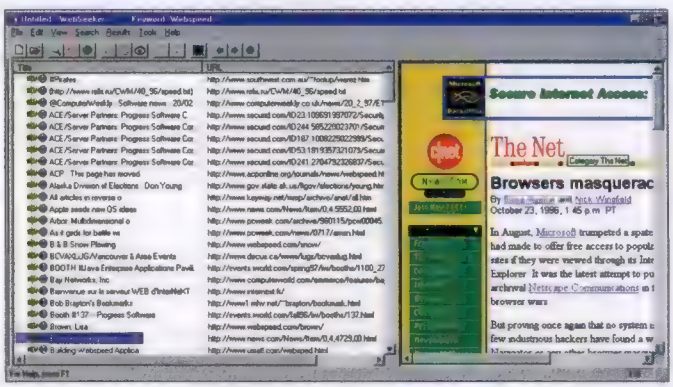
Although the premise of WebSeeker is simple – to allow users to find and view Web content quickly and inexpensively – the product could be far easier to use. The search terms are sometimes presented with the wrong path in the Clean Find search and many of the search engines included Find No sites results in simple searches.

Nevertheless, all round search times are cut down considerably by using WebSeeker 3.0, which should make dial-up users happy.

Existing users can get version 3.0 free for the foreseeable future, and a free beta version is also available. This is a good tool for power users, but the threat from rival search tools reduce its overall appeal.

★★★☆☆

Mike Bracken



Forefront has made entering search terms a cinch with this version of WebSeeker.

WebSeeker 3.0
Price *£49.95, beta free*
Pros *Integration with Windows 95 and Explorer browser; more than 100 search engines queried.*
Cons *Replication in several searches, unclear path names.*
Contact *Forefront*
Platforms supported *Windows NT/95*
Phone *(0181) 387 4012*
Web www.ffg.com

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Verity Search '97 Personal

Much like Verity's Web search engine, except, this time, it's personal...

Verity Personal Search is a multi-platform search engine that allows you to search and index your email, files on your PC – or on the network – and files on Verity's servers. The program attaches itself as a plug-in to Navigator or Internet Explorer.

Once you've installed the software, you have to tell Personal where to look. Click on the index option and select one of the tabs to set up the searches for documents or mail, then select the property's details to add the HTTP details of the server you want to query.

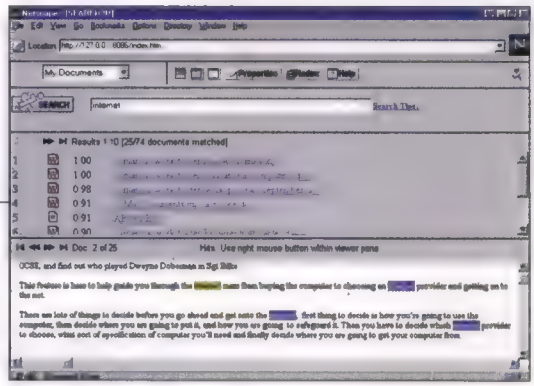
The documents option allows you to select several directories – annoyingly, it automatically searches sub-directories; a selection switch would have been a good idea here. Once you've selected the directory, or directories, press Index and Search '97 goes away and searches 'em. When it's finished the search, it comes back with a list of files it has recognised and has been able to index. You can then select which groups of files it should ignore by clicking on a series of radio buttons. It recognises standard TXT, PDF and HTML files along with a selection of more than 70 different file formats.

The email system works in a similar way:choose your email type, then select the location of the email files and click on Index. Verity gets your email and indexes them.

Once you've created your indexes, you go about the easy job of selecting what it is you want to search for.

There are three different search criteria; either select simple queries by entering a search name or you can carry out advanced searches using Boolean operators like AND, OR and NOT. You can also search by example which allows you to select text and keywords from a document so that Search '97 Personal finds documents that are similar in content.

Search '97 Personal displays the search results in hypertext format.



Verity's excellent search features made personal. Just watch out if you're a Microsoft Mail user though.

Select the document and Personal displays it in its original format, in a box on the screen.

Each document it finds also gets a score – the most relevant document scores 1.0. Documents can either be clicked on individually or flipped through using video player-type controls.

Verity has produced a great product in Search '97 Personal. The query language is good in both its simple and advanced forms.

However, the product falls down in its complete lack of support for Microsoft's email packages – Exchange and the new Outlook that comes with Office 97.

★★★★☆

Marcus Austin

Verity Search '97 Personal
Price *$47.96 via the Net*
Pros *A fast, efficient, multiple-platform search engine.*
Cons *No Outlook or Exchange email search.*
Contact *Verity*
Phone *(01372) 747 076*
Platforms supported *Windows 95/NT*
Download *7.6Mb*
Web www.verity.com

Inconovex EchoSearch

Search results are displayed in index form in this pin-sharp search tool.

After performing its linguistic analysis, EchoSearch displays its search results in index form, via HTML pages which you can open up in either Navigator or Internet Explorer 3.0.

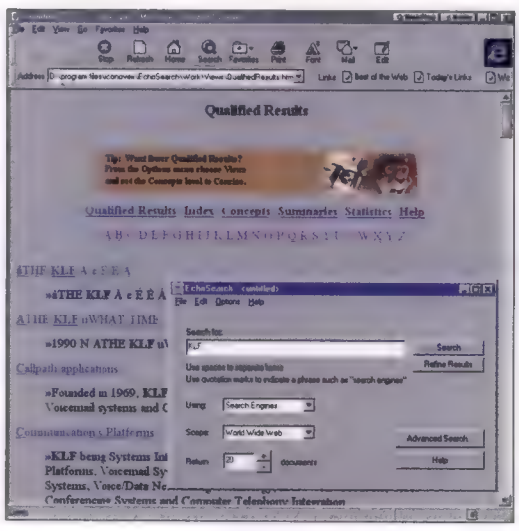
There are four index pages, each with links to the downloaded Web pages and each index uses a different set of keywords.

These indexes can be further refined by adding search terms to an existing search and telling the program to generate new, more detailed indexes, that add your new terms to the old keywords.

EchoSearch lets you search either the Web or Usenet but not both. You can also confine its searching to your bookmarks or favourite places. Once the search is complete, you can disconnect. All the analysis can be performed off-line. Search results can be saved as bookmarks which allows you to generate new indexes for data that has been updated since the last time you performed a search.

A rather dull interface lets you specify which engines you want to include in your search. At the moment, EchoSearch will interrogate up to 10 search engines, including AltaVista, Excite, HotBot, Infoseek, Lycos, Open Text, and WebCrawler. No Yahoo or DejaNews, though!

Intranet searching is possible, but only to AltaVista users. You can add other automated search sites, but first you have to download special drivers from Iconovex's Web site.



Click on an indexed entry, and a text-only version of that Web page is displayed.

As soon as you send a query, the Progress dialog box opens and displays the engines being used, the connection status, and how many hits have been made with each engine.

EchoSearch's linguistic analysis goes beyond simple de-duping and collating and can result in some disturbingly accurate search results.

If you intend to do a lot of heavy-duty text Internet searching, then check out EchoSearch, but if you're looking for a less specialised search tool, then go for Symantec's Internet FastFind.

★★★☆☆

Roger Gann

Inconovex EchoSearch
Price *$49.95*
Pros *Pin-sharp search results.*
Cons *Relatively pricey, limited number of search engines.*
Contact *Iconovex Corporation*
Platforms supported *Mac, Windows 95 & NT*
Download *4.1Mb*
Web www.iconovex.com

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With enough cash you can cut your wait time by installing ISDN, a Direct PC satellite link or other speedy connection and break through today's 33.6 modem speeds, ***but why waste over £1000 on ISDN when you can have the same speed increase by making your modem work harder.*** *After all you bought it to get the job done.*

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  The lights aren't on. Unless it's downloading your current page, your modem just sits idle until you decide to click on another link. In reality, your modem is only working for around 11% of the time you spend surfing.
  Net.Jet from Peak Technologies takes advantage of this fact and improves your Web performance on several fronts, increasing your modems efficiency to 90%. That means it's working over 8 times harder.

- ***Intelligent Caching***
  Your current browser cache only helps speed things along if you go back to a previously visited page. Net.jet enhances your existing cache with its' own intelligent cache which performs 'look ahead' caching as well as the traditional 'look back' caching.

- ***Improved performance***
  Visit a Web site and the chance is that you'll move on by clicking on one of the pages hyperlinks. Net.jet anticipates this and, once your current page has loaded, loads the contents of those pages in the background. So while you're reading a page, net.jet has already loaded the contents of the following pages. When you want to move on, just click the link and your page is right there waiting.

- ***Easy to use***
  With net.jet you don't have to learn to use yet another piece of software. It installs easily and automatically and then runs in the background. You don't have to see an interface but you'll know net.jet's there when you see how fast you're surfing.

- ***Free Updates***
  net.jet automatically checks the Peak Web site every few days and downloads upgrades as they become available. So you'll always have the latest version at no extra cost.

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Internet Magazine, March 1997

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Adobe Persuasion

Persuasion makes distributing your presentations and slides over the Web an easy job.

Once upon a time presentation graphics programs were seen as a godsend. If you had to give a talk or present sales figures to your colleagues you could dispense with badly-drawn overhead projector transparencies and produce high quality, professional-looking slides on your own PC.

Now, with Adobe's latest version of Persuasion, you can create pages, slides, presentations, and more for distribution via the Web. And, if you're so inclined, you can even use it to create an entire Web site.

Presenting via the Web is actually quite simple: all you have to do is create your content in the normal way, adding objects such as images and text boxes to a pre-determined template, and then save it as a PDF file. PDF is Adobe's Portable Document Format, and it creates files that can be read by anybody with the Adobe Acrobat Reader 3.0. And, as the Acrobat Reader is available as a free plug-in for all the popular Web browsers from Netscape Navigator 2.0 onwards, it begins to make sense.

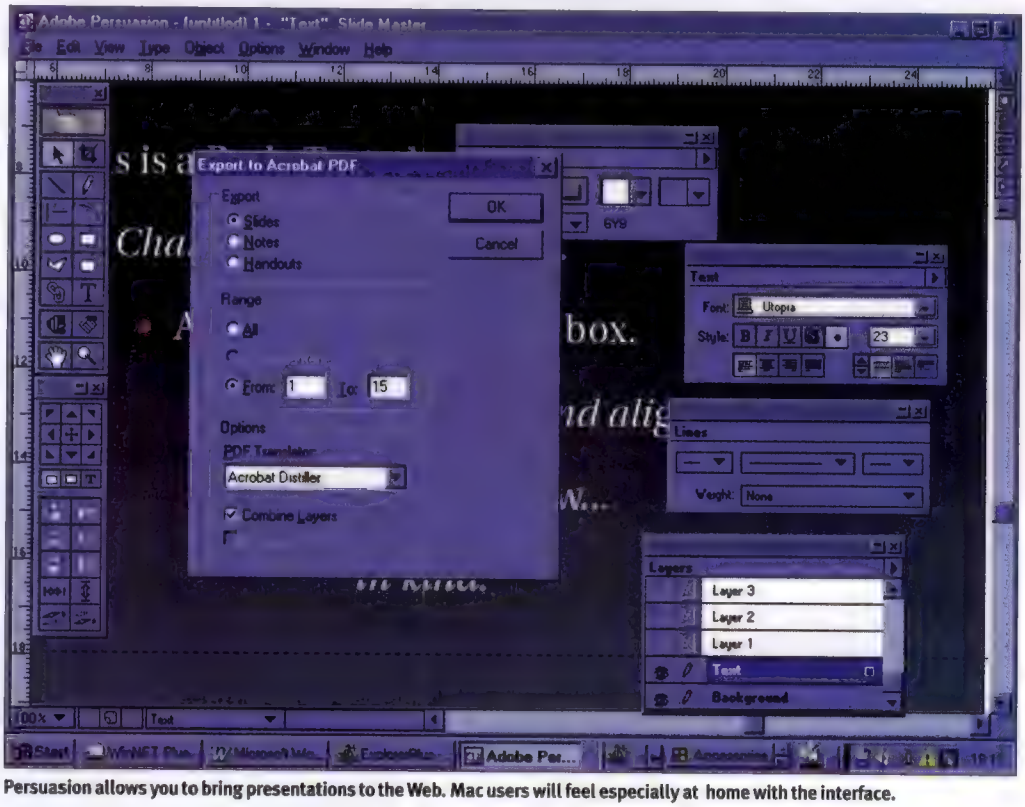
Simplicity and quality

The aim of any presentation graphics program is to be easy enough for a non-computer literate sales executive to get to grips with, so he or she can produce high quality presentations without any specialist knowledge. More than perhaps any other office software product, a presentation graphics program is judged on the simplicity of its interface and the quality of its templates.

Now, call me a cynic, but I've got a suspicion that Mac users will be happier than Windows types with this product. Adobe is known for its best-of-breed graphics software like Photoshop and Illustrator, and Persuasion has the same look and feel. And as most Photoshop users tend to have Macs on their desks, the user interface may feel alien to Windows fans.

Work with Persuasion on either platform though and you'll soon find your way around. When you first run the program you're prompted to choose a template for the presentation – and although not many are copied over during the standard installation process you'll find a decent selection on the CD-ROM.

Then you'll see a selection of text boxes with phrases like 'double click here for title' which leave little to the imagination. It's still my guess that Persuasion is pitched at the slightly more technical user than the likes of Microsoft's PowerPoint though. By comparison, PowerPoint 97 offers far more in the way of hand-holding and makes much better use of wizards.



Persuasion allows you to bring presentations to the Web. Mac users will feel especially at home with the interface.

Presentations & the Web

So, how does Persuasion integrate with the Internet, and what does it offer that standard HTML pages can't. Well, the ability to embed fonts for a start, so you can create Web pages that get away from the standard Times, Courier and Arial, and which can therefore much more closely reflect your corporate image.

More important, though, any sales staff on the road with carefully constructed presentations on their laptops can slap the presentations on the Web so colleagues, customers and partners can have permanent access to them. They can also view and/or print them on any platform – with all the original formatting and layout preserved.

If you just want to create a graphically intensive site though you may be better to look at Macromedia's Shockwave for Freehand or one of the other systems that let you put vector graphics on the Web. Even a single-page PDF presentation can consume more than 50Kb, and although text will download first, that's still a bigger file size than most Web designers recommend.

The good news, though, is that you can embed hyperlinks into Persuasion presentations, and so link to sites on the Internet, both while you present your work in the conventional way (as long as you're online at the time) or when you distribute it on the Web.

Adding links is a breeze, whether you use text or graphics. Persuasion lets you drag links from a browser and then imports both the text and the URL where you drop it. You can also fake the effect of an image map by drawing rectangular hotspots on a slide, then setting up a link from these.

If you think you may use presentations on the Web, it's worth planning for that from the start. Then you can use a Web template that adopts the relevant slide size. Alternatively, you can re-use old presentations, but you may need to resize graphics, text and the like to make sure they fit within the browser window.

So, is it worth investing in Persuasion? Well, if you're happy with the Adobe way of doing things and you need to create Web-centric presentations then the answer is yes. However, with Microsoft's current Internet fetish you'll find PowerPoint 97 also has the ability to hyperlink – and you'll probably find it quite a bit easier to use.

★★★☆☆

David Bradwell

Adobe Persuasion
Price *£189*
Upgrade *£69*
Pros *Integrates well with the Web.*
Cons *Tricky for Windows users.*
Contact *Adobe*
Phone *(0171) 606 4001. Product is available direct from the Adobe shop on (0131) 458 6842*
Platforms supported *Mac, Windows 95 and NT*
Web www.adobe.com

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MICROLIN 33.6 Voice

33,600 voice, fax modem

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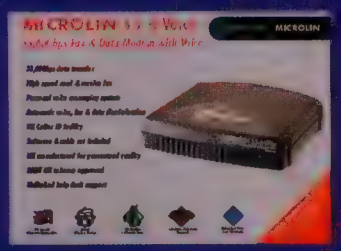
- Send & receive fax facility
- Step by step installation Guide
- Lifetime Technical Support
- Free Internet trials included



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pace

Director 6 Multimedia Studio

Clever new features make this upgrade a huge improvement on Director 5.

Macromedia's latest version of Multimedia Studio has a selection of new Internet features including the ability to produce streamed Shockwave movies, hybrid CD and Internet support and Java playback.

The product is squarely aimed at multimedia and Web development firms as well as creative departments and games producers. We looked at a fairly late beta which, although almost complete in features, was still experiencing some teething troubles.

What's new?

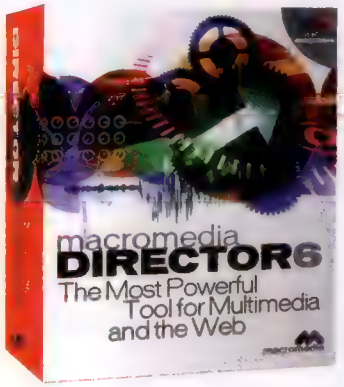
Director 6 adds support for ActiveX controls, MMX technology, QuickTime VR, QuickDraw 3D and DirectSound. A movie developed with Director can be embedded as an ActiveX control, or can, in turn, launch ActiveX controls from within a Director movie, and individual Shockwave movies can also trigger events in other Shockwave movies.

Java enhancements include the ability to play Shockwave movies from within Java, on any platform without needing the Shockwave plug-in. What's more, Java applets can be played back in Director.

Speed enhancements to Director 6 include the addition of Microsoft's DirectSound and DirectDraw technologies and support for Intel's MMX technology. Director 6 has now had both GIF and JPEG file support added, and can export to AVI format on the Windows version and QuickTime on the Macintosh.

What do you get?

Studio is made up of a clutch of separate programs; Director 6, Extreme 3D2, xRes 3, SoundEdit 16 2.02 for Macintosh users. Windows users get Sonic foundry's SoundForge.



Director 6 is a clutch of programs covering the whole multimedia process.

With Macromedia's new streaming Shockwave, it's possible to take a normal Shockwave movie and to play it as soon as the icon is clicked on, rather than having to wait for the whole movie to download first. It's also possible to produce hybrid dynamic multimedia files that combine high bandwidth content like video on a CD with links to constantly updated information on a Web site.

The external applications are designed to make image and sound creation simple. Extreme 3D 2 is a comprehensive animation, modelling, rendering and VRML production package. xRes 3 is an image editing package, which looks and feels exactly like Adobe's PhotoShop, but a PhotoShop that is, thankfully, easier to use. Sound Forge XP allows you both to create and edit sound for multimedia applications, something that's usually missed out of most multimedia applications.

How does it work?

You create Shockwave movies in Director by first creating a series of graphic items – called sprites – in the internal cast tool box. These can be text, bitmaps or controls, buttons for example. Each sprite type is created in one of Director's own internal editors or in one of the external editors, described above.

To make things easier for you, some of the features in each internal editor are shared with the other internal editors. So, if you set a background and foreground colour in the text tool, that's also the default background and foreground colour in the bitmap editor and the control editor. Similarly, the default text selections for font colour and size are also the default text selections in the bitmap editor and control editor.

The internal cast list acts like a cross between a media manager and a library, where each component has a small thumbnail and the components are saved in, and are only accessible from, one large – sometimes very large – director file.

Once you've created your set of sprites, drag and drop them from the internal cast toolbox to Director's score tool. Here you can place their exact starting and end times and define what events occur when you click on a radio box or on a next or before box. It's here that you can also define what sounds happen where, and for how long.

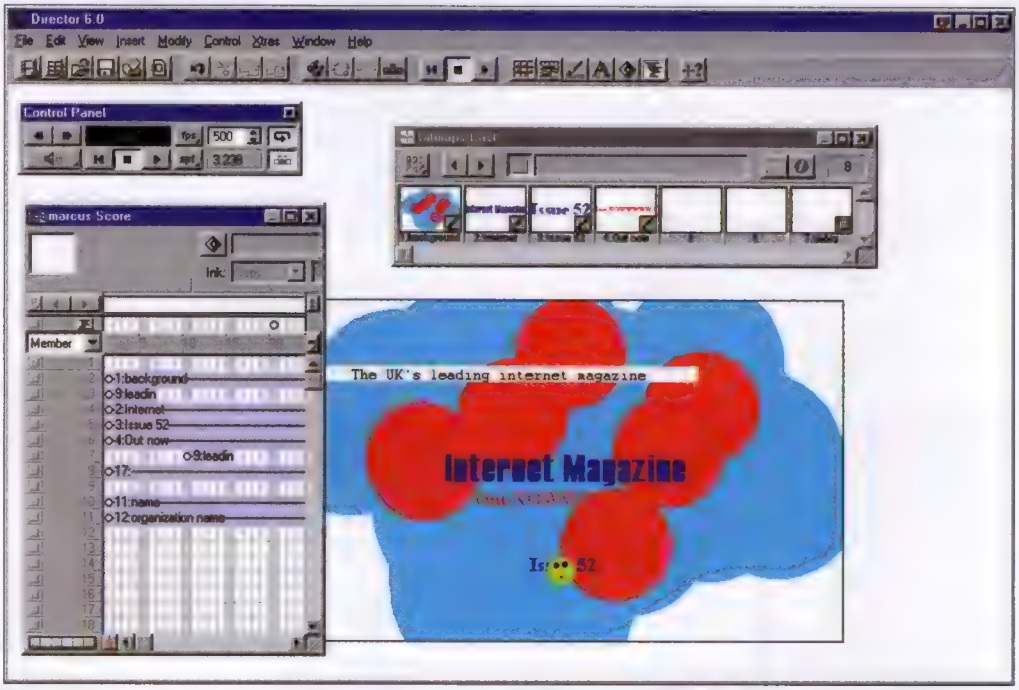
Each sprite is placed into a different channel in the score – there are now 120 instead of Director 5's 48 – and they can be animated simultaneously. If you're used to producing audio files on products like Steinberg's Cubase or any other sequencer package, then Studio should be easy to get to grips with.

Once you've completed your movie and everything is working fine – you can preview the movie at anytime from within Shockwave – you can either save the file as a Shockwave movie or as a streamed Shockwave movie for download.You can even save it as an AVI or QuickTime file, if it doesn't need any yes or no decisions to be made.

Director 6 is a big improvement over the previous version. The extra 72 channels and the new streaming Shockwave are both impressive additions – but at just short of £1,200 so it should be.

★★★☆☆

Marcus Austin



Director 6 gives you everything you need to create an Internet and/or CD-based multimedia extravaganza.

Director 6 Multimedia Studio
Price *£1,199 (Director 6 £999)*
Pros *Everything you need to produce the best multimedia and Internet multimedia applications.*
Cons *It's jolly expensive.*
Contact *Macromedia*
Platforms supported *Macintosh and Windows*
Phone *(01344) 458 600*
Web www.macromedia.com

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INTRANET PUBLISHING

HoTMetaL IP 1.0

HiP is an elegant intranet solution for those with a hefty publishing problem.

SoftQuad's new product is the first of a new breed of publishing products intended solely for the intranet, but which are based on established Web standards. Unlike the range of tools aimed at building and maintaining Internet Web sites, (FrontPage; Fusion; Quicksite; SiteMill et al) HoTMetaL intranet Professional (HiP) includes a batch of enhancements to the way HTML-based content is viewed on an intranet.

Using the plug-in viewer (available now for Internet Explorer and Navigator on 32-bit Windows, and shortly for Mac and 16-bit Windows) company employees can read documents online complete with enhanced navigation, search and annotation features. Anything that can be laid out with HTML 3.2 can be published through HiP.

The enhancements are made possible through a combination of Cascading Style Sheets (CSS) and extensions to the HTML code using custom tags.

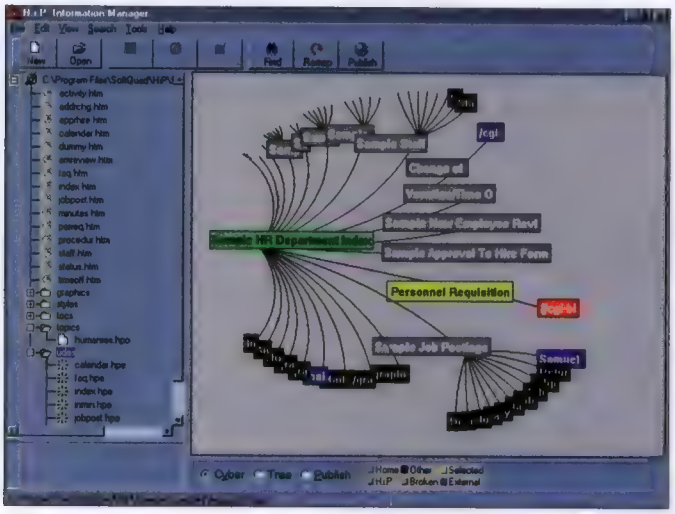
For example, by marking all with custom tags the phone numbers in an employee directory and formatting the rest of the document with the usual HTML commands, CSS can be used to present the document contents in a variety of ways. This might include a summary view, with just the name and phone number of each employee, or a detailed view with a photograph and department information.

The editor component of the package is essentially that old favourite HoTMetaL Pro, but it's been extended to cope with the extra features needed to drive the HiP viewer at the user's end.

This first version of HiP doesn't excel at project and site management. Nor does it include the best HTML page editor ever. Nevertheless, it offers an elegant solution to having to read and review large documents in a browser, while retaining the good stuff about the Web. If you don't need the viewing enhancements HiP brings, then this isn't the site management tool for you, but anyone intending to publish large documents on an intranet should investigate it closely.

★★★★☆

Paul Edge



HiP adds extra navigation tools to your intranet Web pages.

HotMetal Intranet Publisher 1.0
Price *Pilot pack with single-user management and authoring plus 10-user viewer licence £349/Viewer 10 pack £125/upgrade from HoTMetaL Pro £199.*
Pros *Features of HiP Viewer are very useful, slick integration with browsers plus multi-platform support to come.*
Cons *Editor isn't the best on the market.*
System requirements *33MHz 486/16Mb RAM*
Platforms supported *Currently 32-bit Windows browsers only. Mac and 16-bit Windows support on the way.*
Contact *SoftQuad*
Phone *(0181) 387 4110*
Web www.softquad.com

OFFLINE BROWSER

WebWhacker 3.0

New site management features and faster download times are added to this version.

In the Internet software business, it's all give and take. You take what Microsoft provides on the desktop and you give a substantial chunk of your phone bill costs to your access provider in return.

Despite all the recent palaver over Push technology, it's offline browsers like WebWhacker 3.0 that really have the pull for power users.

An offline browser and content delivery tool, WebWhacker is easy to use, reduces costs for dial-up users and avoids replication for network managers and small workgroups. Quite simply, it lets you choose the Web sites you like and then gets them for you.

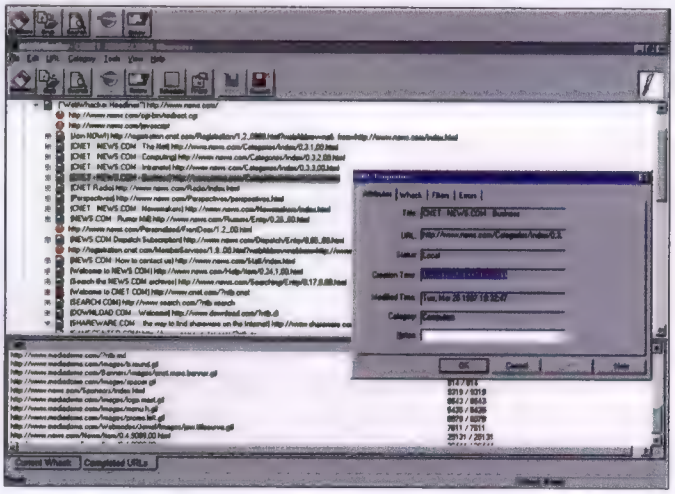
Forefront knew that this was enough to appeal to dial-up users but version three of the product is targeting the business user. Forefront has added compression, replication and update features to its newest version. These features let you store individual Web sites to multiple locations (so that just one download of a news feed could be presented to all company users each morning, for example) and allows you to update older versions of the software automatically.

Version 3.0 adds the downloading of background sounds, Java applets and Shockwave objects, which is bound to help persuade existing dial-up users to upgrade.

However, WebWhacker does itself no favours with its interface. This new version has hardly been touched, despite the addition of new features such as the compression of whacked sites and Boolean searches.

Nonetheless, its core features are sound and it remains my personal choice of offline browser in this highly competitive market. It's browser agnostic, can import bookmarks easily, makes it simple for whacked content to be held locally and has simple scheduler and hierarchical viewing features. The set up process is a doddle, for LAN or dial-up users, and for heavy duty Web users, this product saves you plenty of money.

If you're concerned about your access provider bill, then WebWhacker is well worth checking out. Although with extra features being added to the desktop all the time, how long can it be before the offline browser is included in the operating system? I'd bet on this being WebWhacker's last full release.



WebWhacker is still the best of the offline Web browsers.

★★★★☆

Mike Bracken

WebWhacker 3.0
Price *£49.95*
Pros *Faster download times, compression of whacked sites.*
Cons *New features, but same old interface.*
Contact *Forefront*
Phone *(0181) 387 4012*
Platforms supported *Macintosh, Windows 95 and NT*
Download *4.5Mb*
Web www.ffg.com

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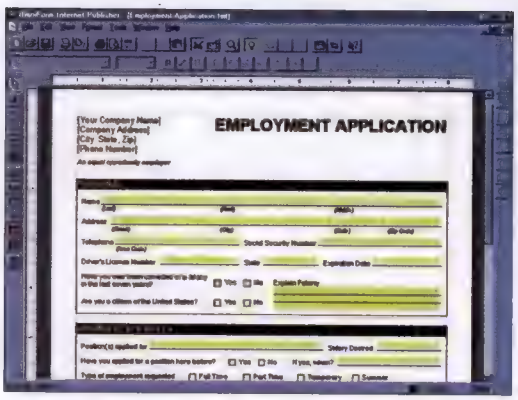
WEB-BASED FORMS

Omniform Internet Publisher

This form creation package has been developed with the Web in mind.



Using Omniform you can get from paper form to Web-based forms in remarkably few steps.

First a word of caution – if you buy your own software, sit down now before the shock of the £595 price tag becomes too much!

Clearly aimed at the business market, Omniform Internet Publisher offers a lot of flexibility for outputting Web friendly forms.

A big time saver is its support for scanning. Simply take your existing paper form and step through the Forms Assistant Wizard to end up with the equivalent form in a Web-compatible format. The Wizard will help you with nearly all the tasks that Internet Publisher can be used for, and is just one of many Office 97-style user interface features in the product. Other Office-like additions include floating toolbars and Office standard icons and shortcut keys. While none of these things is especially important, they all combine to make Internet Publisher particularly easy to learn.

Once you've created a form, either by scanning or using the layout and drawing tools, it can be exported in a number of ways. The most straightforward is to push it into HTML. The layout of the form does suffer in this conversion process – mostly due to the current limitations of accurate layout in HTML 3.2. You'll probably need to further edit the form in a Web publishing program.

Omniform offers a further two export options – Adobe Acrobat PDF files and Open Forms Mark-up Language (a Caere-developed, non-proprietary format for forms on the Web). Currently, Omniform is the only product to use this language – which looks just like HTML, but adds absolute positioning references for layout. But with absolute positioning and layers already in the specification for HTML 4.0, it seems unlikely that OFML will take off.

In the meantime though, it's a useful stop-gap for getting forms on the Web and on paper that look the same. Anyone who wants to view the forms will need the plug-in for Navigator or Internet Explorer.

The high cost of Omniform Internet Publisher could partly be justified by the OCR technology built into the product, which has the potential to save your business lots of time and money on converting paper forms.

On the other hand, if you're creating new forms for use on the Web then I recommend you use a Web publishing package, or a word processor that outputs to HTML.

If you find you do need Omniform's particular features then, price apart, you can rest assured you'll be buying a polished product that's easy to learn and use – just be ready to work on the HTML.

★★★★☆

Paul Edge

Omniform Internet Publisher
Price *£595*
Pros *Easy to use, easy to get paper forms into a Web format.*
Cons *HTML will still need editing and it's expensive.*
Platforms supported *Windows 95*
Contact *Caere*
Phone *Sales handled through Ingram Micro on (01908) 260 160*
Web www.caere.com

BROWSER SOFTWARE

AOL 3.0 access software (beta 2)

Now Mac users can take advantage of the improved version 3 of AOL's software.

AOL's Mac access software is much faster than its predecessor.

If you're a Mac user you'll be used to delays. Apple often makes promises and then there's a delay, groovy new software appears for PCs and then there's a delay for the Mac version.

So just over the horizon is version 3.0 of AOL's software for the Mac. I had a look at the second beta version. AOL had a few problems in taking version 3.0 of its browser over to the Mac, but there were few traces of trouble in this version of the software.

Set up is little changed, though you have to try your luck with modem settings if your particular model isn't in the list as there's no generic setting. For those connecting via a LAN, it's very simple, just choose TCP from the options for dialling and viola! However, if you are trying both ways of connecting you'll have to restart your machine to swap between them.

The installation will take up about 10Mb on your hard disk and you'll need a minimum of 4Mb of RAM, though 6Mb is recommended. There's a plug-ins folder so you can use all the latest add-ons for the browser and there's also a very handy diagnostic utility thrown in. Inside the Online Tools folder you'll find AOL Diagnostic. Usually, these sort of things are a waste of space but I'm glad to report that this is good not only for checking out your online workings, but also for configuring your control panels and extensions as well as some of the more gory details of the inner workings of your Mac.

The main improvement, and the most important, is speed. Previous versions were renowned for the frustrating wait as yet another set of artwork worked its way down the wire to you. I'm very happy to say that these problems have gone. Graphics load in the same way as they do in your average browser – a graphics symbol is displayed until the image is loaded. However, the advantage is that now you can quickly check whether you want to be where you are and if you don't, then you can click your way out without waiting for all that lovely artwork to appear.

One problem I did have was with the design of the interface. Some of the type is nearly illegible or in very small print, which is fine if you're going to peer at your screen like Dr Magoo, but when AOL has obviously worked hard to make the online experience more pleasurable it seems silly to overlook something as basic as this. Also, the online clock would be a useful tool except you can't have that open and carry on working.

Overall it was worth the wait. Mac users of AOL will find everything zips along much faster than before.

★★★★☆

Mike Hales

AOL 3.0 beta 2
Price *Free*
Pros *Faster than before, stable, very easy to use, good diagnostic tool.*
Cons *Some of the pages and type are difficult to read.*
Download *On this month's cover CD*
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SITE ANALYSIS TOOL

LinkScan 1.2

Checking external links on a big Web site is now much easier with LinkScan.

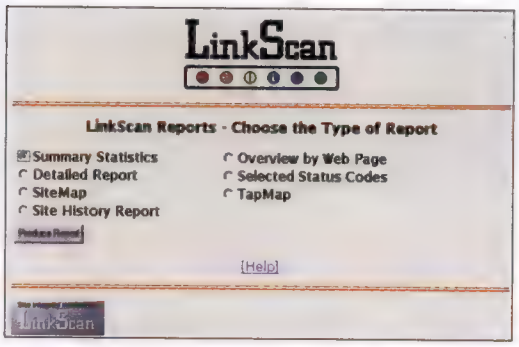
Any Web master who's had the regular task of checking that the links on his or her Web site are working knows what an onerous job this can be. On a big site, with hundreds or thousands of external links it becomes almost impossible to do manually.

There are many link-checking utilities available, often built into Web site creation tools like Microsoft FrontPage or Adobe Sitemill. But running these from a standard PC or Mac workstation, when your Web server is a high-end UNIX box is a network-choking task that could take hours, or days, to run.

Now the Electronic Software Publishing Corporation (ELSOP) has produced a large-scale link checking utility called LinkScan. Running directly on a Unix box, LinkScan can check more than 30 links concurrently. And it's fast, LinkScan can check more than 30,000 links in an hour. LinkScan is designed to run unattended with scheduled overnight processing that can be set to run periodically, and restart features should a system problem occur.

The product doesn't just check external links either, any internal hyperlinks, name tags and references can also be checked, as well as searching for orphaned files. To make for easy maintenance, LinkScan can also be set up to only retest problematic links discovered on a previous run. Link errors that are checked for and reported include servers not found because there's no DNS entry, documents not found, URLs that have been relocated, URLs that are blocked due to access permissions and URLs that time out before returning information. The program maintains a history of all tested URLs, and the error reports include links to both the target and source documents to help correct the faulty links.

The power of LinkScan comes in its reporting capabilities, which can be accessed through a client machine running any Web browser that can view forms. As well as categorising the errors found, it automatically generates a site map and table of contents. You can also produce a 'TapMap' which is much like the site map but is expandable and collapsible. This gives you a summarised overview of the site contents, while still allowing you to drill-down into a more detailed view. You can also generate custom reports on-the-fly from the browser.



LinkScan reports can be accessed from any forms-compatible Web browser.

Although the need for a link-checking program is real, LinkScan is really only suitable for the professional Web master running large scale intranet or Internet sites. That Web master will also need a working knowledge of Unix. Nevertheless, there's a 15-day free trial version which is a mere 80Kb download. Anyone who thinks their links are in need of some sorting should give it a whirl.

★★★☆☆

Mike Bracken

LinkScan 1.2
Price *$495 (about £310) for commercial organisations, $49.95 (about £31) for non-profit and educational organisations*
Pros *Scalability to cope with very large sites, free trial period.*
Cons *Needs Unix and PERL v5 to run, complex installation procedure, expensive for a basic utility.*
Systems requirements *Internet-connected UNIX server with PERL v5 or above and CGI-capable Web server software. Viewing of reports requires a client machine running a forms-capable Web browser.*
Contact *Electronic Software Publishing Corporation*
Email linkscan@elsop.com
Web www.elsop.com

DIGITAL CAMERA

Nikon Coolpix 100

This is a small digital camera which makes transferring images to your PC a doddle.

With more than 40 digital cameras on the market, it's hard to narrow down the field. Many have the same resolution, similar storage capacities, the same facilities – only the outside seems different. But the Nikon Coolpix doesn't fall into that category – it's an idiosyncratic beast, suited to specific circumstances.

The design is unusual, but usefully so. The shutter button fall easily to hand, the LCD controls are simple to use, and it's very compact in the hand. The main defining feature is the Type II PC card which makes up the bottom half of the camera. Slip the surrounding handle (containing the four AA batteries) off the bottom, stick the card into your nearest friendly PC Card socket and the camera instantly shows up as an additional disk drive, which contains JPEGs of your photos. It doesn't take long to transfer the photos to your hard drive and the whole process is simple. This is the camera's strongest feature.

The lens is equivalent to 52mm (so, significantly, not wide-angle like regular 35mm snappers), with a nine-inch macro facility. Shutter speeds range from 1/45 to 1/10,000 of a second, and the built-in flash kicks in if you need to go slower. There's a red-eye reduction pre-flash and the main flash will light a subject up to 7.5 feet away. You also get a 10-second timer, but seeing as the camera doesn't stand upright on its base and doesn't have a tripod bush, you wonder why Nikon bothered.

The Coolpix has an interesting design but no picture preview option.

Resolution is 512x480 and, as long as you don't crop your photos too severely this is fine for Web use. The Coolpix stores the photos as JPEGs, which means they can be instantly put up on your Web site. More significantly, it can store 21 lightly compressed photos (1/10 compression) or 42 standard ones (at 1/20 compression). That's fewer than some other cameras available in the same price bracket, and disappointingly you can't increase the storage with extra memory cards.

Pictures from the Coolpix look good and sharp, handle contrast well, and have no obvious colour casts.The camera comes with image-tweaking software called EasyPhoto. This is a fair package, good for basic cropping and resizing.

The Coolpix is only worth buying if the following applies: you have a laptop computer (PC or Mac); said laptop is always close to hand (otherwise you'll fill your camera with pictures and won't be able to see them, as the Coolpix doesn't have its own LCD display); you particularly need a small camera; you need to see and transfer the photos quickly; you can justify the £515 price tag.

★★★☆☆

David Pitchford

Nikon Coolpix 100
Price *£515*
Pros *Small, good picture quality, instant transfer of images.*
Cons *Expensive; you need a laptop to make best use of the camera.*
Contact *Nikon*
Phone *(0800) 230 220*
Web www.klt.co.jp/Nikon/EID/Digital_Cameras/CP_100/index.html

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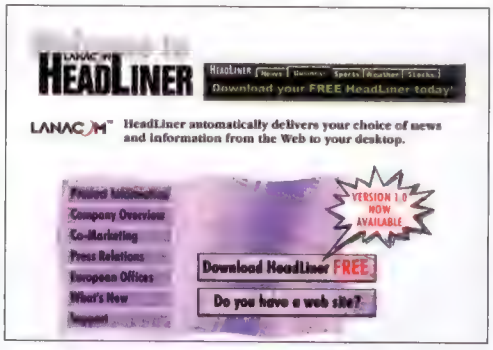
New this month

Internet Magazine's fearless reporter, Angus Kennedy, reports back on the hot new products launched at the Internet World Show in Los Angeles...

No question, Microsoft cleaned up this year's show honours with an ominously complete array of five star, Net-centric applications. Sure, we expected nothing less. After all it is the big guy. So much so it's resented. But it's too easy to forget this time last year Microsoft was barely in the race. Now its Web-enabled roots reach into everything it does. For starters, just take the URL friendly Office 97, its Unix killer NT, FrontPage, Normandy and of course Internet Explorer. Now flank this with emerging Active X applications such as: V-Active www.ephyx.com which can embed links in moving video objects; ChiliSoft www.versicom.com/chilisoft which generates on-the-fly spreadsheet or WP reports from Web databases; and Headliner www.headliner.com the news clipper that can scan any Web page.



But it was Explorer 4.0 that stole the show. The message was clear. The browser as we know it is dead. The Netscape era is over. No longer the wannabe, the catch-up client, IE4.0 is the real deal. It will change the way you use the Internet. Believe the hype.

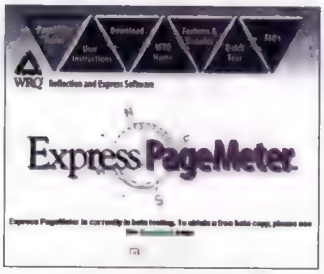
Mere feet away from the Active X flotilla, Sun showcased Java in a display that looked comparatively dated. Now the media fanfare has faded, Java has settled appropriately into the hands of those with superior programming, rather than creative talents. Consequently, and ironically, its progress was better seen crunching inside IE4.0, than in Sun's rough and tumble examples.

On the hardware front, Sun launched a snazzy new JavaStation Network Computer. A true NC, it runs the Java operating system native, has no local data storage, and comes armed with the microSPARC- IIep processor, upwards of 4Mb of flash RAM, 8Mb of RAM, Ethernet, sound, keyboard, mouse and a 14-inch monitor. All this for less than $1,000.

One of the most exciting developments at the show was the commercial roll-out of wireless Internet services. We were blown away by Metricom's Ricochet Wireless Modem access www.ricochet.net. It serves duplex 28.8Kbps via an unrestricted radio channel, direct to the IAP. That's right, no telephone charges. And word has it Mr Gates himself has taken a substantial personal stake in the company. So far it's only sparsely available in the US, mainly in California. Now, pause for a moment, and think how much BT would like it over here.

Last year it was DIY Web pages. This year, it's DIY Web marketing. The ambient buzz that was 'How can we whip up a Web page?' has morphed into 'Who's looking at it and how do we make them respond?' If you're presently sifting through your Web stats by hand you'll appreciate WebTrends 3.0's astounding set of analysis tools. It's simple to break it all down and see who's been where and how long they've stayed at each page.

Well, we listened and it sounded great, in theory. You measure the time between one link and the next, by the same ID, and that's how long they spent. But what of products like Blaze and NetJet that drill through links, caching ahead at each page? And with IE4.0 employing similar tricks, think of the headaches in store. But the biggest controversy is how most of the hits, hide behind browser and IAP proxy caches. Browsers hit this cache rather than the actual site.



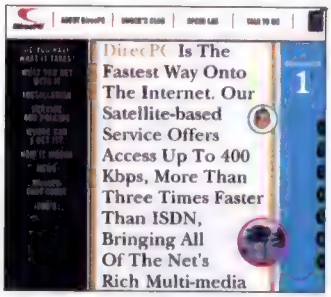
The closest we've seen to a fix comes from PageMeter www.pagemeter.com which sends out a Java applet or Active X control to ensure each page is read afresh. So look forward to a tug-o-war between ad stat hounds and the preservation of bandwidth movement. Stand back and plug your ears.

That ubiquitous crowd-pleasing pyramid box, NewsCatcher www.airmedia.com had everyone talking. It receives Net broadcasts, including email alerts, by air and pushes them into your serial port. Again, no telephone charges, just a subscription fee. Expect to see it in Europe this year.

After the first few Internet telephony and video products, I started to glaze over. Is anyone actually using, let alone buying, them? For sure, says the Israeli-based market leader Vocaltec, makers of Internet Phone. But future dollars won't come from those feeble CB Radio-style chat clients but from the likes of its server telephony gateways which can re-route long-haul telephony traffic via the Net. That way firms with foreign offices can provide local number access to international support, not to mention scalp overseas calls. Wow!

And we're told the video conferencing features are proving popular with upper management in addressing staff via their office PCs. I cringed.

Hughes Network System's DirecPC 400kbps satellite downfeed www.direcpc.com sure does look attractive and it's here in the UK, but alas still needs an IAP account, a modem and, of course, a telephone line for the upstream. Pity.

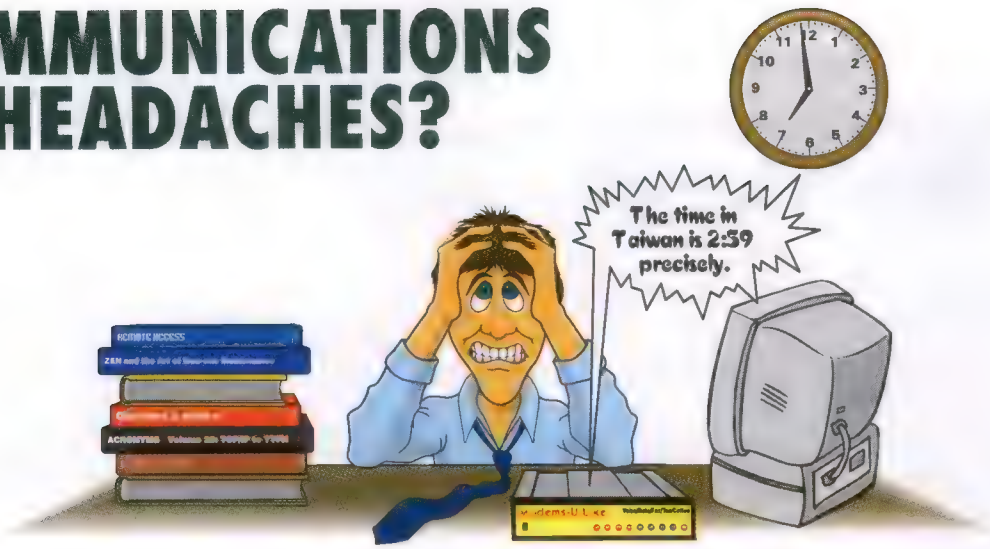


But is there room for more with Microsoft giving away arguably the best in its class, NetMeeting? ToolVox says so because its compression leaves the rest for dead, it's clearer and less susceptible to dropouts, even at 2400Kbps. Try it for yourself. www.voxware.com.

Meanwhile, PSINet www.psinet.com is rolling forth its international Internet fax gateway throughout the US, UK, Canada and Japan. Payment is by token.

Finally I looked at Lightning Strike, a super efficient graphic compression standard. Although it's been around for yonks no-one's noticed. It uses its own technology to compress images up to 200:1 with less pixelation than JPEGs and GIFs. Even JPEGs can be squeezed down by as much as 80 per cent. As yet no-one supports it as a standard, but you can plug it in to most browsers. Grab the controls from www.infinitron.com

COMMUNICATIONS HEADACHES?



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Hot Downloads

This month's guide to the essential Net upgrades for your Mac, PC and Web browser.

Internet Explorer 3.02

If you're worried about the recent Explorer security scares then toddle along to the Microsoft site and download the latest version of the browser. As well as security fixes, the update also includes upgraded Internet Mail and News clients. Also new in 3.02 are Auto-Proxy and Auto-Configuration, features which help network administrators and IAPs deploy and maintain the browser. Rather scarily, If you're running Explorer on Windows 95 and NT, Microsoft strongly recommends you install the update.

There's also been an update to the Mac version of the browser which adds a Java security fix. Set aside an hour or so for the download though, it's 10.3Mb.

Download *Windows 95 version* **www.microsoft.com/ie/security/download.htm**
Mac update **www.microsoft.com/ie/security/update.htm**
Size *10.3Mb*
Platform *Window 95 and Mac*
Price *Free*

WebCast Lite

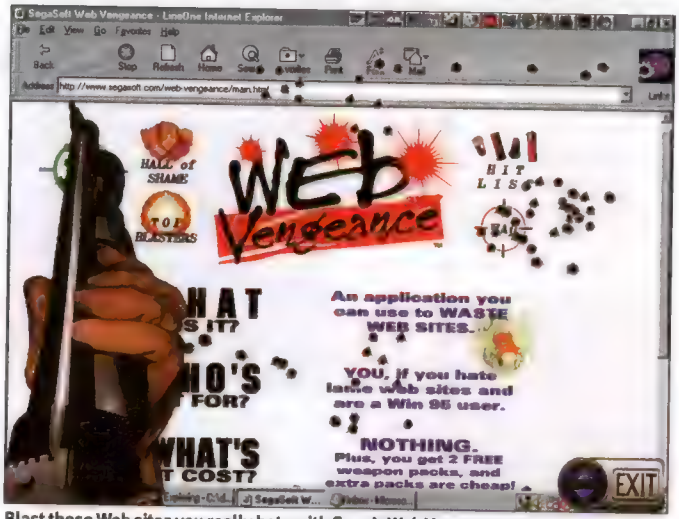
If you fancy doing a bit of Web broadcasting, but don't want to burden your visitors with installing a heap of plug-ins, download WebCast Lite from Galacticomm. WebCast Lite is a limited free trial version that includes live video and two receiver licences. To use the product all you need is a Video for Windows-compatible camera, a SLIP/PPP connection to the Internet and Windows 95 or NT.

Download **www.gcomm.com**
Size *860Kb*
Platform *Windows NT and 95*
Price *Trial version free/personal version $29.95/server version $995*

Peak Web Animator

The company that brought you the rather spiffing Web accelerator NetJet has moved into Web animation. Animator allows you to insert both small-frame and full-screen Java animations into any site. You can play with your text making it zoom, fade or rise and sink around the screen.

Download **www.peak-media.com**
Size *2.5Mb*
Platform *Windows 95 and NT*
Price *Trial version free for 30 days*



Blast those Web sites you really hate with Sega's Web Vengeance.

NetJumper

NetJumper reckons we've had enough of backtracking through sites to find the next link and that we should be surfing forward. Download the trial version of this plug-in and you'll find that it parses all the links on a page and creates a list. You then choose where you want to go from a drop-down window.

Download **www.netjumper.com**
Size *946Kb*
Platform *Windows 95 and NT*
Price *Free for 30 days/full version $19.95*

U&I Tool kit

This free Java-based tool kit allows you to add avatars and chat features to your Web site. The developers claim you need no previous programming experience to use the package. Once developed, visitors to your site can take on an avatar and chat away to others in the room. There are no fees to pay and no proprietary software or plug-ins to download. All sites using U&I software can register with the U&I World Map, a search engine which takes you around virtual worlds. To use the product you need to host your own site on a computer which supports Java.

Download **www.uandi.com**
Size *3.3Mb*
Platform *Any platform which supports Java/the Editor runs on Windows 95*
Price *Free*

Digital Voice Plugin

Digital's new plug-in allows you to record and send voice email directly from a Web page. You simply put the plug-in on your page whenever you want feedback from visitors to your site.

The product currently only works with Netscape Navigator or Gold, although support for Internet Explorer and Netscape Communicator will be added in the next few months.

Download **http://interface.digital.com/voice**
Size *678Kb*
Platform *Need Netscape Navigator or Gold 3.x/Windows 95 or NT*
Price *Free*

Web Vengeance

Sega has come up with Web Vengeance designed for 'anyone who is fed up with long downloads and pointless sites on the Web', according to SegaSoft's Director of Marketing Lori Von Rueden.

Web Vengeance comes with weapon packs including an arsenal of pies, eggs and shotguns which Web users fire at their least favourite sites. You get the program itself and two weapon packs for free and you can buy new weapons at $4.95 a pop.

To find which sites have been targeted the most frequently check out the Hit List on the SegaSoft site – apparently the AOL site has come in for some grief recently.

Download **www.segasoft.com**
Size *2.2Mb*
Platform *Windows 95 running either Explorer or Navigator*
Price *Free*

RocketMail

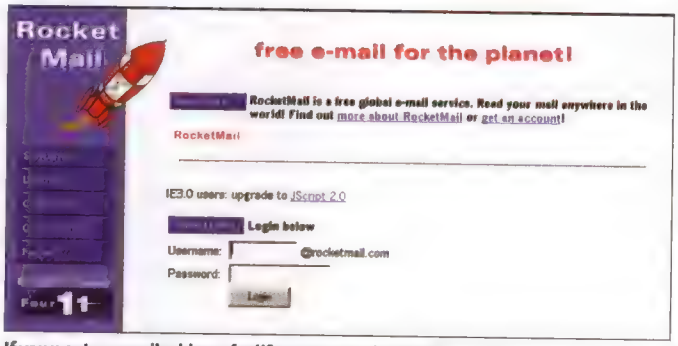
This is not so much a download as a complete freebie. Sign up at the RocketMail site and you'll get a free email address for life, which allows you to access your mail from the Web using any browser. The service also includes a personal address book, spellchecking facilities and customisable folders.

Web **www.rocketmail.com**

WhoWhere?

And just in case one free permanent email address isn't enough try out WhoWhere's version. Like RocketMail , you access your mail from the Web. The service is called MailCity and also allows you to forward and retrieve email messages from multiple POPs to one location. The product also supports personalised multiple address books. Messages can include HTML-coded text as well as attachments.

Web **www.mailcity.com**



If you want an email address for life, try out RocketMail. Mail is viewable on the Web.

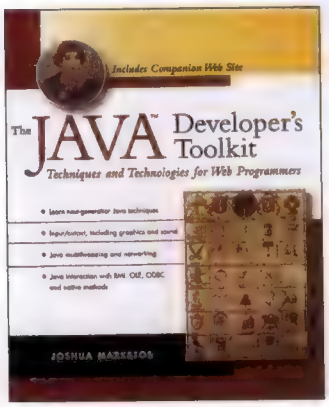
Books

Internet Magazine's Java consultant, Simon Brock, reviews the latest guides to Sun's scripting language.

The Java Developer's Kit

According to the introduction, anyone who has written a macro in Microsoft Word or Lotus 1-2-3 should be able to read and understand this book. While this may sound like a good idea, what it means is that important points like inheritance and data hiding are given the same space as less important points like escape characters.

Out of 370 pages of content, the description of the Java programming language is condensed into one 25-page chapter. Most of the rest of the book contains material which has been taken from the standard documentation. For a book which sells on the fact it has a companion



Web site, it's a shame that so much of the space in the book is taken by large examples.

Personally, I doubt whether the reader who has written a Word macro will be able to write a Java applet after reading this.

★★☆☆☆

The Java Developer's Kit
by Joshua Marketos
Publisher: *Wiley*
Price: *$29.95*
ISBN *0-471-16519-0*

Java Database Programming

The front cover invites you to 'Master Next Generation Web Database Techniques'. So potential purchasers might think this book will help them write Java applets, which can access SQL databases over the Web.

Unfortunately, you'll won't find any mention of applets until the last chapter when the author points out that Java applets can't really use the code he's shown in the book.

What this book is really about is how to write database query applications in Java. It provides the relevant information on the subject and if you've already got an understanding of SQL databases you'll get something from it. The book explains the Java DataBase

Connectivity (JDBC) and will allow the reader who already knows some Java to produce database applications.

★★★☆☆

Java Database Programming
by Brian Jepson
Publisher: *Wiley*
Price: *$29.95*
ISBN: *0-471-16518-2*

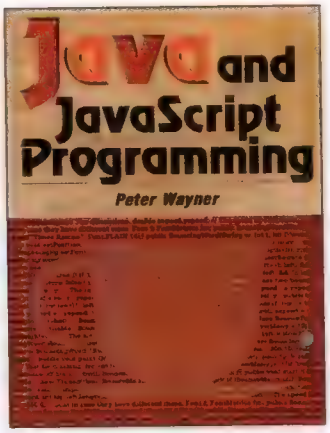
Java and JavaScript

Java and JavaScript are different – Java is a compiled general purpose programming language, while JavaScript is an interpreted language usually built into Web browsers. However, they do share certain common concepts and this book does well to introduce them.

Really this is a book about Java and 80 per cent of it introduces the key ideas clearly, making good use of margin notes to refer the reader to other sections in the book. Rather than dedicating many pages to examples, the key ideas are explained with appropriate code fragments. The JavaScript chapters start with a good description of the similarities between the two languages and how they vary.

A good comprehensive guide to both Java and JavaScript

★★★★☆

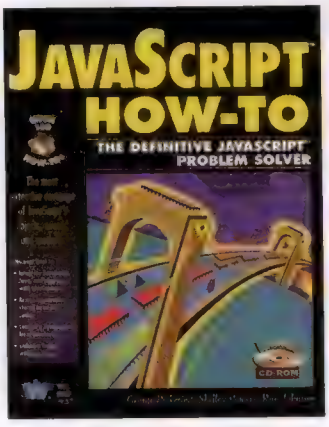


Java and JavaScript Programming
by Peter Wayner
Publisher: *AP Professional*
Price: *$29.95*
ISBN: *0-12-738769-2*

JavaScript How-To and JavaScript Primer Plus

If you balance these two books by holding one in either hand there seems little to distinguish them from the same publisher on the same subject. Both contain a CD-ROM of examples, they both have equal numbers of pages and both will make similar sizable holes in your wallet. However, the difference between them is the different approaches in presenting the material.

The How-To book's approach is practical, presenting a series of chapter on topics like Communicating with the User and Frames and Dynamic Documents. Each chapter then contains a series



of how-to sections under that topic. The advantage of this particular approach is that you can dip into this book to find answers to specific questions. However, it's hard to find an answer to the question of exactly what JavaScript is about. This is, to some extent, remedied in the fifth and sixth chapters which present details on the syntax and built-in objects. But the reader who starts from the beginning of the book will probably end up with an incomplete model of JavaScript. Nevertheless, all the chapters are well illustrated with good examples.

The Primer Plus takes a more theoretical approach, explaining to the reader what JavaScript is all about and how the language is structured and used. Despite two rather unnecessary early chapters on HTML, the book follow a logical order and, again, uses good examples.

Both these books have the same drawback – they don't make any reference to JScript, the version of JavaScript used in Microsoft's Internet Explorer browser. There are also some differences between the version of JavaScript implemented by different versions of Netscape's Navigator browser.

My money would go on the Primer Plus book if I was looking for solid information. I found the How-To approach slightly less thorough.

★★★☆☆ **(for both)**

JavaScript How-To
by George Pickering, Shelley Powers and Ron Johnson
Publisher: *Waite Group*
Price: *£41.50*
ISBN: *1-57169-047-6*

Javascript Primer Plus
by Gabriel Torok, Jeffrey Payne and Matt Weisfeld
Publisher: *Waite Group*
Price: *£37.49*
ISBN: *1-57169-041-7*

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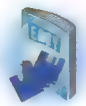

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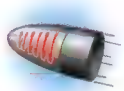

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01.032/1/4

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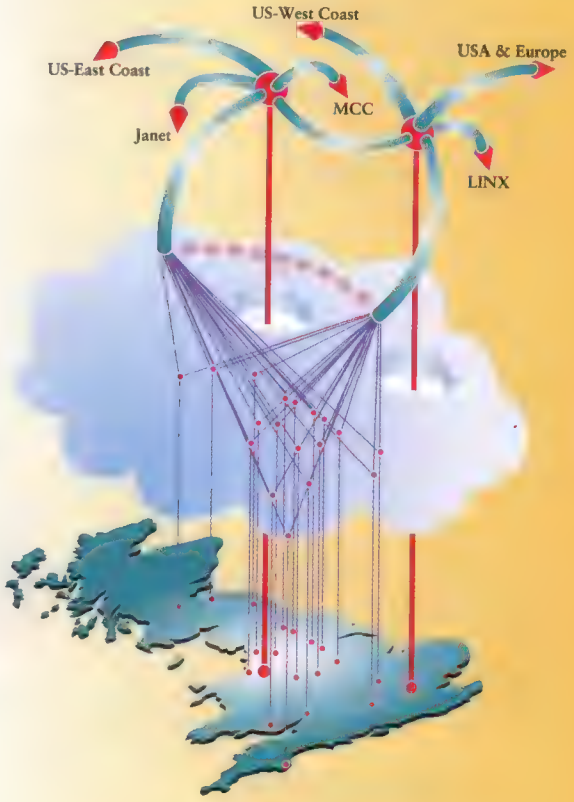

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01.032/1/5

site survey

New-Car-Net

Designers: *Netro Communications and Forty-two Communications*
Web: www.new-car-net.co.uk
Development time: *Four months*
Development costs: *Undisclosed*

Leave the glossy brochures to the collectors and get straight down to the serious business of choosing the right car for you.

According to the Society of Motor Manufacturers, 2 million new cars are sold each year in the UK. According to New-Car-Net, there are 1,600 models in the UK to choose from. According to anyone who has bought a new car, it is a traumatic, expensive and confusing experience.

The concept

New-Car-Net aims to make that car buying experience a little simpler by presenting data in a clear, concise and comparable format. Inevitably, the site will become a bible for those fascinated by torque measurements, boot capacity and catalytic convertors. And, for the rest of us, it could spell an end to poring over endless copies of *What Car* comparing insurance groups, airbag options and the like.

Choose the cars you're interested in and they'll be compared in seconds. Of course, if you're in no hurry, you can order the brochures online and coo over the exotic locations, wide-angled photography and upholstery samples in comfort at home.

After a house, a new car is the most expensive item you're ever likely to buy.

Background

The site is the brainchild of Netro Communications, a small design agency more used to creating brochures than spotting gaps in the Web site market.

Back in October 1996, Netro director Massimo Pini was gearing up to buy a new car. "I thought to myself, here I am getting lots of brochures. Wouldn't it be good if I could see all the information in one place?"

So, Netro put a plan together for a new car Web site, approached the car manufacturers and found the response was favourable. "Ninety-five per cent of them said they thought it was a great idea," says Pini.

So Netro began talks with Forty-two Communications, an Internet consultancy. Forty-two convinced them they'd be able to pull the whole project together. Paul Willis, director at Forty-two, recalls how easy it was to get the project rolling: "Netro came up with the idea, they story-boarded it, they did the layout of the pages in Quark and they left the technical side to us," he says.

How much did it cost?

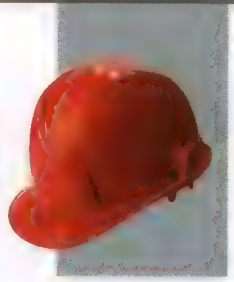
New-Car-Net was very much content led. In much the same way as Online Magic developed the GE97 site and then set about financing it further down the line, Netro hopes to charge the car manufacturers to store their details on the site, after an initial free three-month trial period.

The site does have the backing of Texaco though. The petrol giant was eager to be involved from very early on, although Pini freely admits it was a case of being in the right place at the right time. "We approached Texaco with our

You can get detailed info on the car of your choice, or send off for a brochure.

Online insurance quotes might put the mockers on over-ambitious boy-racers.

If you're developing a site or know of a site which you think is worthy of coverage in the Site Surveyor section, please email details to paulb@internet.emap.com



project and they said it looked interesting. They had just carried out their own market research which suggested that people buying their products are also likely to use the Internet." Surprisingly, Texaco UK's Internet presence consists solely of this venture and their rather limited car health-check.

Online insurance

Choosing the car of your dreams is all well and good, but when it comes to getting an insurance quote for your boy-racer son's dream Jaguar XK8, you can forget it. To help here New-Car-Net includes an online insurance indicator.

The forms only need to be filled in once. Save the completed page in text format and you've got your insurance history on your hard disk. So far, only Admiral and Sun Alliance are on there although Touchline Insurance has also signed up. Pini is confident of attracting five insurance companies to the service.

Under the bonnet

All the statistical information is input by Netro to a database Forty-two Communications designed. "We made the process as simple as possible so it was a case of just typing text and pasting images," says Willis.

The server is a Power Computing, Power Tower Pro 225 Mac clone, running at 225MHz and furnished with 148Mb of RAM. The software that makes it all possible is WebSTAR 2.0.2 from Quarterdeck/StarNine and the database is ACI's 4th Dimension 3.5.3 for the Mac.

Both parties are confident the hardware will be able to handle the traffic. What's more New-Car-Net will be the sole site on the server. Says Pini: "We also have two other Macs on the network that can be brought in to share the load should the need arise," adds Willis.

At the moment, the site is pulling in 2,500-3,500 hits a day but there are plans to put a banner ad on the motoring section of Yahoo which, it's hoped, will raise that figure to about 20,000. "The site is monitored daily and the statistics checked to keep track of activity. Even at the busiest times the server hasn't been stressed," said Pini.

Choose the cars you're interested in and their details will be compared on screen.

Ease of use

The service is a doddle to use. Choose your vehicle type and the amount you're prepared to spend. The search is quick and gives you a comprehensive list of every car that meets your criteria.

From here you can get a more detailed listing on a specific car, alongside a small image of the vehicle. If you reckon this is the car for you then go on and ask for an insurance quote.

The HTML pages are, for the most part, created on-the-fly, depending on the user's online selections. "Very few of the pages you see are straightforward HTML," explains Willis.

All the updates, including adding to the library of 6,000 pictures, can be done without any disruption to the service.

Any problems

Slow-and-sure seems to have been the way forward with this site. The lengthy development time has been possible because both parties are under no illusions about the complexity of the task.

When Netro came to the table they had a clear idea of how the site should look and how it should work. Forty-two Communications fitted around that. "This is sometimes a lot harder than starting with a clean sheet," says Willis.

And for the future?

Now that the hard work has been done, Netro is looking to employ someone to maintain the site. Netro has enjoyed its involvement with the online world but, says Pini: "We'll continue to work within the traditional mediums – although we will still be open to any new projects!"

Paul Bennett

What the competitors say...

Hot on the heels of New-Car-Net is Car Prices, a site looking at the prices of both new and used cars. Kay Olateru, the project manager, is impressed with the navigational ease of New-Car-Net and doesn't see why, in the future, the two sites shouldn't work together. "Both sites complement each other; what they have to offer is comprehensive prices and technical information. We have a larger database of 30,000 old and new cars," he

says. "If I was looking to sell my car and buy another I would use Car Prices. But if I didn't have a car to sell, and was looking to buy a car, then I might well use New-Car-Net. Although I do think Car Prices is more of a total solution than New-Car-Net."

Pini is adamant though, about the future of New-Car-Net. "We will resist to the last the idea of listing second-hand cars," he says.

www.carprices.co.uk

Patrick Baird, managing director at Autoguide, is creating a site along the same lines as New-Car-Net although he's planning to focus on creating mini Web sites for dealerships, and then indexing them to a main search engine.

"Revenue-wise, we're acting shamelessly as an ad agency and hope to charge the dealers £395 per quarter. Mini Web sites will be created, then we'll index them to the main search engines," he said.

His opinions on New-Car-Net are generally complimentary. "The designers of New-Car-Net could have done with being a little bit more ambitious, a bit sexier, and it does takes a little time to work your way around the site, but I did rather like the way of they provide comparisons and their insurance facility was very good. Overall I was impressed."

Autoguide will be launched on 1 June.

www.autoguide.co.uk

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A full banking service with more benefits

As well as our Cheque Account we offer saving, borrowing, travel and insurance services cost effectively by telephone. Take saving; our rates are always competitive, we offer transfers to and from your Cheque Account. So your money is always working hard without the need for you to do the same.

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The best people to demonstrate the quality of a banking service are its customers – 87%* of ours have recommended us to their friends and colleagues in the last 12 months.

Opening an account is easy too

We also appreciate how daunting changing bank accounts can be. So we make it easy. Easy to open a First Direct account, then easy to arrange for your salary to be paid in and easy for all your standing orders and direct debits to be transferred to your account. And it's easy (and free) to find out more right now. Call us on **0800 24 24 24** or complete the coupon.

POLITICS

General Election

You might be sick of election overload but it's still worth checking out this site from The Guardian's New Media Lab.

By now your interest in the General Election is probably waning but visit this site and you'll be rewarded with a shed-load more information, courtesy of hacks in *The Guardian* and *The Observer* newspapers and a team of eight in *The Guardian's* New Media Lab.

The site brings you election news bulletins three times a day. "Having the paper's correspondents writing editorial for us means we have *The Guardian* and *The Observer* news up every night, before the papers are out," says Simon Waldman, editor of the New Media Lab. "The site will bring you hard core news. For this to work you have to be an extension of a hard core news environment. GE97 (a rival election site) has a constant news stream but we have the biggest stories."

The trump card in *The Guardian* pack is the Election Guide. This resource allows comparisons to be made on a variety of subjects. Pick a section, be it candidates, constituencies, parties or issues. Compare party policies on the economy, health and education, or search the guide by postcode, keyword, political party and area.

The site also boasts its own virtual House where you'll find a polling booth so you can vote on the issue of the week. The House also has three forum areas: UK Politics focuses on the manifestoes of the main parties; the media looks at its part in the election; and *The Observer* editor Will Hutton has his own forum.

For a bit of light entertainment, take part in Question Time, the site's very own pub quiz. Coming soon is a member's bar and a Vote-a-meter – a guide to those all-important floating voters.

One of the problems with event sites like this is their short shelf lives, but the plan is that the site will eventually become integrated into the online version of *The Guardian*, planned to launch in the autumn.

Waldman is reluctant to divulge the cost of the project, but insists it wasn't a prime concern when developing the site. "It's not about recouping cost, this is an enormous learning experience and, given the abilities of both the New Media Lab and *The Guardian*, it would have been negligent not to do it," he says.

Despite currently being in beta test, the site's already provoked reaction from both the press and politicians. "We've had feedback from MPs and journalists – all remarkably favourable," says Waldman "although obviously no Tories".

Paul Bennett

http://election.guardian.co.uk/

Take a trip down to the virtual House of Commons courtesy of *The Guardian's* New Media Lab General Election site.

Design	★★★★
Technology	★★★★
Navigation	★★★★

CHARITY

House our Youth 2000

This site aims to involve young people in the homelessness issue and to put the problem on the political agenda.

Amid election fever, one thing remains unaffected by political manoeuvring. For the people huddled in blankets on The Strand, the election isn't really the big issue. This site acts as a launching-pad for the NCH Action for Children's five-year House our Youth campaign. Its ultimate aim? To raise the profile of youth homelessness, establish it on the political agenda and then eradicate it by 2000.

In conveying a serious message to a young audience, NCH treads a fine line between being visually attractive and making the point clearly. Hence the site uses stark black-and-white photos depicting young homeless people, not as tragic victims but as any group of young people. The message is simple — it could be you.

"I looked at the Greenpeace and Friends of the Earth sites and liked them, but we wanted something that had more of a youth focus and provided an information resource while encouraging people to get involved," explains Anne Mullins, publicity manager for NCH Action for Children.

"The Net provides another forum for the campaign, and it's a way to bring together all the campaigning materials into one area," says Mullins.

However, as David Tulett, creative director of design company On-line Publishing explains, striking the balance between the campaign message and the design aesthetic wasn't easy: "If we'd followed the original NCH brief exactly then the site would have been very information and text based," he says. "Instead, we tried to make it more human by using real-life case studies, while the deliberate use of a limited colour palette and gritty documentary-style images in black and orange reflect the simultaneous poster campaign. We believe there's a sense of hope in every page."

From a technology point of view, the site is consciously minimalist, favouring JavaScript and Pearl over Shockwave or ActiveX. "We had to make sure the technology we used was backwards compatible. For example, using GIF animations rather than Shockwave made it more accessible," explains Nigel Dunn, the technical development manager who recently worked on the Labour Party site. "We simply tried to use the best technology available appropriately."

Once given the go-ahead by NCH, the site took only two months from the brief to going online. The next step is to make it more interactive; developing a role-playing element and an initiative to involve schools and colleges. "Our ultimate aim is to develop a working partnership across government, business, the voluntary sectors and the general public," explains Mullins.

Everyone is pleased with the site and is looking to future growth. To combine visual flair with the agenda-setting of heavyweight politics on the budget of a charity is no mean feat.

In the words of Tulett: "You can't be too flamboyant with a charity site, but you can be succinct. It's not flashy, it's hard-hitting, but it's stylishly presented."

David Atkinson

www.hoy2000.org.uk

Hitting home on the homeless issue.

Design	★★★
Technology	★★★★
Navigation	★★★

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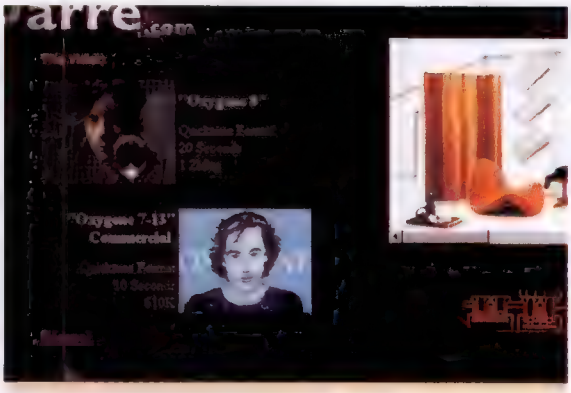


Jarre – godfather of modern ambient techno music – allegedly.

Jean Michel Jarre, the man who lit up Docklands with laser pyrotechnics while playing a see-through synthesiser, has a new Web site.

To those in the know (and as the Sony-commissioned site is keen to point out), Jarre is, apparently, also the spiritual godfather of current soundmeisters like Robert Miles and The Prodigy.

The Jarre site is more of an experience than a fact sheet or place of idolatry. The brief to the Web designers at WebMedia was fairly open, leaving Richard Evans, the site producer, with room to experiment. "Jarre had an idea of using a room for the site but the actual design was left entirely up to us," he says.

The room in question serves as the main navigation tool, and is most unusual in its horizontal-scrolling interface, allowing the user to access any part of the site with one click of a mouse. With the use of JavaScript rollovers to let the user know what direction they're heading in, navigation is, as Evans points out, "idiot proof".

Visually, the room is impressive, stuffed with artifacts and furniture that manages to combine a futuristic feel with a historical perspective that parallels Jarre's work.

The site covers Jarre's musical history and outlines his new direction. Extras like QuickTime movies, Shockwave shenanigans and remixes and interviews, courtesy of RealAudio, are all clearly signposted. The site set out to cater for all platforms and browsers although visitors will need a Java-capable browser and a full range of plug-ins.

The site is intended to follow Jarre's summer tour, allowing the already large following he enjoys (suggested in the packed and fairly global guestbook) access to up-to-date news. There will also be a gallery area where the Shockwave and Java toys will be displayed.

Sony Music Europe certainly seem to be happy with the site, as is Jarre himself. The company's online director Scott Lawrence says: "Everybody we talk to is very happy with the site, everybody is knowledgeable about the site. I think that's great. We couldn't ask for more." High praise indeed considering the rapid development of the site. "WebMedia were under real tight pressure to do it, turnaround was three to four weeks," says Lawrence.

If there's a fly in *le ointment*, it's that the site takes an age to download, even with a fairly fast machine, thanks to the generous use of bandwidth-intensive features. Users with flabby modems looking for a quick synth fix are likely to be disappointed. If you're prepared to wait, then the site has a lot to offer.

For those of a more tranquil disposition, there's always the opportunity to check out the fishcam in the Poisson section — updated every 16 seconds,with colourful and relaxing fishies. Apparently, it will feature in his tour also. Those crazy French, huh?

Robert Venes

www.jeanmicheljarre.com

Design	★★★★☆
Technology	★★★★☆
Navigation	★★★★☆

RADIO

Kiss 102

A site that'll make you want to pucker up and tune in.

A site which puts the lifestyle into radio, conveying the left-of-field brand values of the Kiss dance music experience.

The three Kiss stations have taken dance music from pirate to mainstream FM radio. Manchester's Kiss 102 not only anticipated this but was the first radio station on the Net. But two years of technology advances meant a major rethink was needed.

"We wanted a new site which used state-of-the-art technology, and was better at conveying information about Kiss 102 in a fun, creative way to reflect our core brand values," explains Cathy Pover-Jones, group marketing controller at Kiss 102 and 105.

Kiss chose design house Music Network – acclaimed for work on React Records and Movieweb sites – as they needed a "design company that understood dance culture as well as technology".

Tony Martin, founding director and MD of Music Network, has a slightly different tale to tell. "We actually approached them as the old site was so bad," he explains. "We simply explained the potential for cross-advertising and profile building via mailback, which was being wasted as a business opportunity for them."

The target Kiss audience is 15–24 year olds – into dance culture and into technology. The challenge was to visually inspire the bedroom DJ, while updating the playlist and localised listings weekly.

"Most people don't know what a plug-in is. If you use Shockwave you start alienating people," explains Martin, "all the sites we design are aimed at attracting people through design, not software."

The site is available in Java and non-Java versions for Netscape 2 compatibility. It greets you with Java-scripted kissing lips, and animations are sparked off with the click of a mouse. The menu bar acts as a constant for building instinctive navigation.

"Kiss is a unique product as it's so young; it's not culturally akin to any other radio sites likes Capital and Virgin," says Martin. "We aimed to demystify the whole music genre by enabling users to interact with DJs and, using the personalised icons of the Web chat forum, to counter the anonymous nature of dance music."

Music Network is also set to let its creative juices flow over the Yorkshire-based Kiss 105 site.

"Radio is a very interactive medium, and the Internet complements that perfectly," says Kiss' Pover-Jones. "We've made our commitment to Internet technology, now the possibilities are endless."

Martin agrees there's scope to introduce marketing opportunities to a captive audience. He says: "We're always looking at ways of integrating new features without causing pain to the user, maybe moving towards buying records from specialist music stores online or taste-tracking DJs' playlists, similar to the Firefly idea. The only thing I'm not keen on is Netcasts, as the quality is so bad."

David Atkinson

www.kiss102.co.uk

Design	★★★★☆
Technology	★★★☆☆
Navigation	★★★★☆

Federal Express vs. TNT Express Worldwide

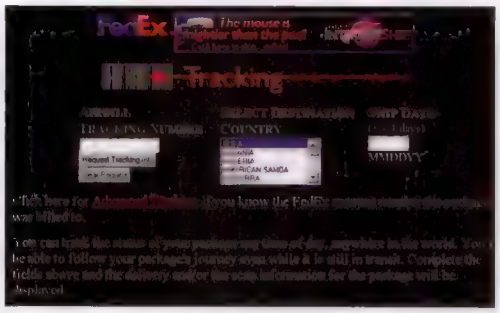
Some packets can't be re-routed via the Internet, but with FedEx' and TNT's Web trackers, you can still use your modem to check your mail.

Follow your brown paper packages tied up with string with the FedEx and TNT sites.

Snail-mail, eh? A rather derisory term we Internet folk use to describe the postal service.

Yet despite being able to transmit email documents round the world with the click of a mouse, snail-mail is still a necessary evil. Let's face it, some things just can't be stuffed down a copper twist wire.

The nearest we'll get to a speedy global delivery service in the non-digital world is by using companies like Federal Express and TNT Express Worldwide. And, just to prove that they see the new technology as a complementary medium, rather than a threat to their livelihood, both FedEx and TNT have gone to great pains to use the Web to offer value-added services to their customers.



The FedEx site has been localised for each European country the company delivers to.

TNT took a clean and business-like approach to the design of its site.

Each company has a defined Internet strategy. As Sascha Williams, designer of the TNT site, says: "TNT outlined very definite goals in our brief. The company wanted the site to be bright, simple and as easy to use as possible. Our job was to create a Web tracker which was the simplest to use, and the most useful for TNT's customers."

Massive savings

Rick Goldhoff, managing director of customer technology for FedEx Europe, the Middle East and Africa, says the company's investment in the Net has already saved several million dollars.

FedEx's current Web site was designed in the US, but the objective was to achieve 'global presence with local relevance' – so European countries have their own pages, which are soon to be updated by a UK design team.

Both FedEx and TNT see their sites as a way of communicating more efficiently with their (mainly business) customers.

Both delivery services work around the world, and around the clock, so the Web is seen as the perfect medium for giving customers accurate, up-to-date information.

TNT believes it has an edge over its competitors by offering a clean, structured site "with a truly international approach". The design is very business-oriented, and mercifully free of jargon.

However, initial exploration of the site had me reaching for the phone book, as I was instructed "to contact my local TNT agent". The contact information is there, but it's three levels down, via the Country Information section.

It was also irritating to be told that England, Scotland, Wales, and even Britain, were invalid search options – only UK brought up the details.

Federal Express, on the other hand, has a more pronounced US-bias, with certain options and services available only in North America.

However, the company wants the site to have the same look and feel wherever it's accessed, so these issues are being addressed. Likewise, most of the site – which was built in 1994 – has a stylish design, and is easy to navigate, but some of the non-US information does seem tagged on. That said, I was one click away from a freephone number to deal with my shipping enquiries.

Tracking packages

Most people will want to track their packages from these sites. You can find out if and when it's delivered, who signed for it, and the reasons for any delays.

For ease of use, TNT has the edge – tap in your consignment number, and you're given an impressive amount of data. It's possible to track up to 10 consignments at a time, using one consignment number, and you're shown every step of the journey. This has to be useful for TNT, too, as it would show that the company isn't accountable for certain delays.

Tracking a FedEx package is more difficult. You have to input the consignment number, the country of destination and the shipping date. These extra fields provide more information for the database to work with, to make sure the correct package is tracked. In the US, all you need is an account number, this option should be available in the rest of the world soon.

I was able to sit back and watch my packages speed their way across the world. Sending one by FedEx and one by TNT made the exercise more entertaining, as I ended up viewing it as a race, especially as the packages were picked up within minutes of each other. It was neck-and-neck all the way, but FedEx won by a nose, getting to its destination an hour-and-a-half earlier. And, with those tracking facilities, I was one of the first to know.

Elaine Hernen

TNT Express Worldwide

www.tntew.com

Design	★★★
Technology	★★★★
Navigation	★★★
Tracking service	★★★★
Delivery service	★★★
Total 17	

Federal Express

www.fedex.com

Design	★★★
Technology	★★★
Navigation	★★★★
Tracking service	★★★
Delivery service	★★★★★
Total 18	

FreePages

Whether you're looking for *Lawrence of Arabia* or the *Star of Asia Tandoori*, Freepages will help you find them.

In many ways, Freepages is what the Web is all about – massive collections of information. The Freepages' database contains nearly 2 million business records, sorted into about 3,000 different classifications.

Putting massive back-end databases online is hardly news, but adding in filter and search features that actually work mark out the best sites on the Web.

Freepages is made up of three separate databases: the UK Business Directory, the Cinema Guide and the Brand & Branch Locator. All three sections contain localisation features and search refinements that make information searches more accurate.

The Business Directory is the core service. Originally created as a Delphi application, the directory is the one used by telephone operators on the Freepages (0800) 192 192 line. With the aid of extensive CGI scripting and a massive Compaq server, this data is now fed into a simple front-end. This lets users enter a location and then search for topics within it — whether the resulting link has a Web site or not. Search results with a site appear as a hot-link, while non-Web results have just a name, address and telephone number.

The Cinema Guide is provided by Press Association (PA) and contains searches by film, by cinema, or a search of all the films listed. Freepages plans to add notification emails of future releases to this service, as well as carrying reviews.

The Brand & Branch Locator is the least useful of the three databases available, containing links to companies that have advertised with Freepages.

With a team of 17 running the site, Web-design manager Mark Lyne has clear intentions for the revenue streams. The content will remain free to users, and banner advertisements, corporate services and site design contracts will pay for the constant upgrading of the site.

The ambitious part of the Freepages site is the facility to allow Web masters to include embedded Freepages searches in their sites. This will allow site designers to include localised, targeted information relevant to the site's users. For example, if a site designer creating a page on kites wanted to include a Freepages search, then that search would not only list all the related kite sites, but list them in an order closest to the user's location.

This local search facility is outstanding, rapidly removing the Web user's dependence on national and regional search engines such as Yahoo! and the like. The other benefit is that there's never a dead-end. For example, there's only one chicken-sexer in the UK, but regardless of your search location on Freepages, the service will present this site as a result, ensuring that there are no annoying 'file not found' results.

So, whether you're looking for a chicken-sexer or your local fried chicken takeaway, the Freepages site, regardless of its plain interface, is a great improvement on current search and directory services.

Mike Bracken

www.Freepages.com

Design	★★☆☆☆
Technology	★★★★☆
Navigation	★★★★☆

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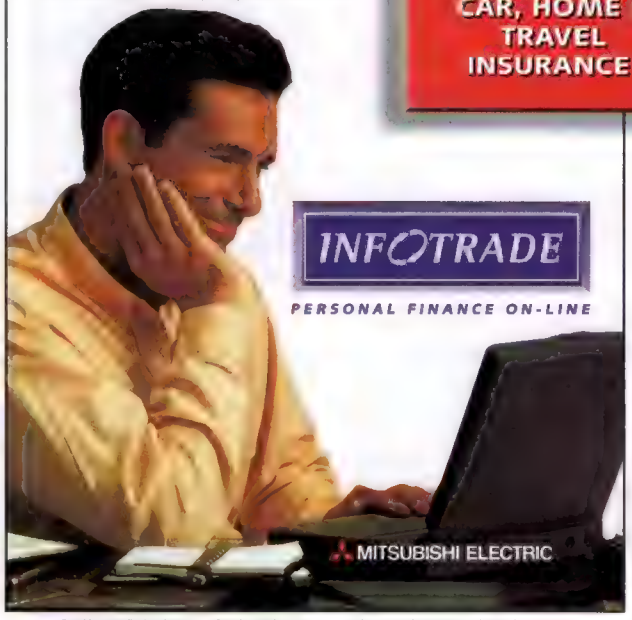

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CHARITY

Greenpeace UK

Environmental campaign group Greenpeace moves its crusading techniques online.

Greenpeace brings environmental awareness to the Internet.

The UK arm of the environmental campaigning organisation Greenpeace has launched its own version of the successful international Web site.

Designed by Knowhaus, this technologically innovative site takes Greenpeace International (GPI) as its creative role model but slaps UK design and information onto it. The GPI site has won widespread acclaim for its pioneering coverage of Greenpeace and currently gets more than 600,000 hits a week.

It's hoped the UK site will complement rather than compete with the international site. "It's much less interactive and much more about campaigning," says Jim Sweet, a director at Knowhaus. Knowhaus is a new small Web design agency which admits it struck lucky getting Greenpeace as its first commercial customer.

"To us, Greenpeace is not just a high-profile client," says Sweet. "It is also unusually open to innovation and to trying things out." He skirts the issue of cost though: "Let's say it's somewhere over five and less than six figures," he confesses, not very usefully.

The site is very much design-led with a view to improved navigation. John Sauven, Greenpeace campaign director, recalls navigation problems from personal experience. "In many sites you get lost very easily," he says. "I don't want to stumble on to someone else's site if I'm looking at Greenpeace; the advantage of this site is that you always know where you are."

You're greeted by an animated applet as you enter the site. It looks fairly functional but, as the Java sun blurs into a white haze, an optical illusion occurs and an image of the sun's shadow is temporarily left on your retina. This, says Knowhaus "gets across, in a striking way, the core message about the power of the sun and the great untapped potential of solar power." I'm not so sure about that but it looks nice!

The site was designed as a dynamic console, using JavaScript programming, this allows immediate access to all the elements of the site.

There are reports and updates on the activities of Greenpeace UK, including free online access to in-house publications such as Greenpeace Business and Campaign Report and details of your nearest local group.

Greenpeace has also pledged a commitment to site security. "There are a number of Greenpeace sites on the Web already but this is the first to have a secure server and the first to permit online transactions. Now we've done it, the others will follow the lead," says Sauven.

And for the future? "Keep an eye on the Atlantic Frontier," warns Sauven. Although very much in dry dock at present, it will link to a whole new operation Greenpeace has planned for later in the year. This, admits Sauven "will be the place for online video, sounds and pictures".

Paul Bennett

www.greenpeace.org/uk

Design	★★★
Technology	★★★
Navigation	★★★★★

ENTERTAINMENT

Bud E. Luv

Party reptiles chill out in the veloured splendour of this American songster's sultry nightspot.

Hey Bud E., how ya doin'?

America's cheesiest crooner, Bud E. Luv, invites you into his virtual, Las Vegas-style, Luv Lounge where Bud E. Dollars are the only currency and Mr Luv's tips are the only rules. Sip cocktails while you chat up 'babes', have a flutter at the casino, or just relax to the dulcet tones of the Budster himself.

Stateside's answer to Mike Flowers Pops, but with a lounge lizard 'tache, Mr Luv is planning world domination and his Web site is just the start. "We want to give a global view of Bud E. Luv and get the kids to understand what the American lounge experience is all about," explains Bud E.'s alter ego, San Francisco-based Robert Vickers.

The Luv Lounge is more like a computer game than a Web site. Web master Steve Casner, explains: "HTML was too constrictive, so we pushed Java and JavaScript to the limit to deliver Bud E.'s version of Las Vegas to your desktop."

Each page is sensitive to what you've been doing in the rest of the site, so if you win the online poker game you can spend your Bud E. Dollars on Martinis and then try various chat-up lines on the babes. But, if you've had one too many cocktails before going to meet Desiree and Tina, you're told to sling your hook.

Use of cookies means that each visit builds into a personalised experience. A tab is kept of how much money you've won or spent, and if you go into the red, Bud E. sends Leon the Pit Boss after you and 'that cat ain't polite'.

The rest of the content comes directly from Bud E. Luv's book *You Oughta be Me: How to be a Lounge Singer and Live Like One*, an amusing enough read but better on paper than on screen. There's also very little animation, and a lack of compression means the photos are a bit slow to download. The overall design allows easy navigation but is quite plain compared to London's Club Montepulciano or Vic Trola's Lounge of Self-indulgence, which both have a much more textured, 70s feel to them.

Below: Regulars from the Luv Lounge.

The Luv Lounge's other major problem was with the Request a Song section. "We had fans staying online for hours listening to different tunes," admits Vickers. "This used up too much bandwidth and we were closed down by the Internet server a few times." They have now switched to professional status and will single out a Tune of the Month to help ease the problem.

Despite these teething troubles, the Luv Lounge is a purple, velvet bow-tie of an experience that knocks sequins off the other lounges. In the Budster's inimitable words: "If you want entertainment with a capital E, you've gotta go for Bud E. Luv."

Katherine Harvey

www.budeluv.com

Design	★★
Technology	★★★★
Navigation	★★★★

Jonesie – Queen of Cyber Chat

Jonesie, CompuServe's Queen of CyberChat, has become so successful in her chat Forum that she's branched out into a Web site.

Jonesie, the Lady Penelope of CompuServe's proprietary chat service, now reaches a global audience with her own Web site. For those of you not familiar with the Jonesie style, she's noted for being more than a couple of pickles short of a ploughman's.

The site – a foray into the public realm by CompuServe – shows a friendlier, more accessible side to the service provider. Although it's unashamedly designed to get people to sign up with CompuServe, it's a reasonable effort.

The Web site can handle the mailing list, fanzine and past logs of the Jonesie show. It answers FAQs, has a games area for Java-enabled Etch-A-Sketch, Connect 4 and a fan club, but it doesn't give you access to the meaty chat Forum. For that, you need to be a CompuServe subscriber.

Although there's currently no way to chart CompuServe sign-ups as a result of visits to Jonesie's site, this was, allegedly, a secondary consideration. "We are expecting a drip-feed response rather than a downpour,"says Charon Wood, executive producer at CompuServe.

There's no doubt the show is popular. "100,000 people have been into the show, we've had 120 people in a chat room in one session, and some people have been there every night since last May," says Wood.

At the moment CB chat is used for the service; this is part of the proprietary system used by CompuServe. There are plans afoot to move to a total Web-based format, although Wood stresses they're keen not to lose the site's immediacy. "Whichever path we choose for the future, we want the Jonesie experience to remain as slick as it is now," explains Wood.

Trying to create a chaotic Web site within a structured corporate environment can sometimes pose problems, although not so in this case. Jonesie had an initial meeting with CompuServe and they seemed to go along with whatever she proposed. "I did notice that they stuck in a large disclaimer though," she recalls.

It certainly seems to be a mutually beneficial arrangement. Jonesie freely admits to the romantic advantages of being your very own chat show host and has been inundated with marriage proposals. "I could have been the next Mrs Gates if Bill had been a CompuServe subscriber." Yet she is resolutely loyal to her cause: "I am married to CompuServe! Who else would put up with me?" You can catch Jonesie week nights from 8pm to 10pm.

Paul Bennett

www.compuserve.co.uk/jonesie/

Design ★★☆☆☆
Technology ★★☆☆☆
Navigation ★★★☆☆

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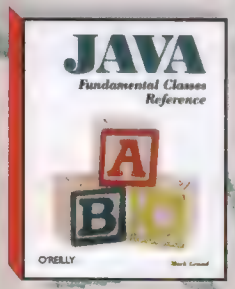

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By Mark Grand
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By John Zukowski
1st Edition April 1997
1,074 pages, ISBN 1-56592-240-9
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WEB TECHNOLOGY OF THE MONTH

Clocks, counters and other fun stuff

Finding out just how many people have visited your site is often a matter of a simple plug-in. And this is just one of many free goodies you can download and add to your site...

Counters

There's a renewed enthusiasm for adding counters to Web pages. Behind the counter sits a program that should log the number of users visiting your pages. There are a range of commercial counter systems available and a clutch of free services. With the free sites I'd advise a belt-and-braces approach – use the figures in conjunction with site statistics from the company that hosts your site.

Most systems use Common Gateway Interface (CGI) scripts to handle the communication between the counters, your Web site and any image on the site that represents the results.

Counter basics

A great place to start is the How to use page access counters site at **http://purgatory.ecn.purdue.edu:20002/JBC/david/how.html.** Strangely enough, this page was put together by a sound engineer for Primal Scream and George Clinton and it gives you an idiot's guide to adapting these counter systems.

● Easy Counter is one of the simplest systems and doesn't require any complicated scripts. **www.bcpl.lib.md.us/~sandyste/ezcount.html** holds all the instructions and the system simply looks at the data held on your Web server.

● Web Counter at **www.digits.com** is a good professional counter service which splits into a range of free and subscription systems. Free systems are often over-subscribed and as a result Web Counter is pushing its more reliable subscription services.

● Digit Mania contains a range of images to be used in conjunction with exiting counter systems. **www.digitmania.holowww.com** contains some usable images, alongside some more bizarre counter styles, such as the banana and rune images. There's also a useful links page.

Clocks

Having a clock showing the current time on your Web page is a nice touch. There are plenty of systems on offer. Most work like the counter systems and use CGI scripts.

● The most unlikely source of clocks comes from the US Navy. This gives you access to a clock hosted on the Navy's servers. You simply link to an image on your page. Not ideal, not necessarily relevant to your time zone but still kind of cool. You can find it at: **http://tycho.usno.navy.mil/howclock.html**

● Behold Software's Web page clock creates a clock on your page using HTML via the <img src> tag. To run the utility you'll need Windows NT or 95 **www.behold-software.com/clock/** will take you there.

● Ryan Terry Sammartino has a digital clock which will work from a CGI script that he makes available at his page at **www.geocities.com/SiliconValley/6742/**. Simply download the zipped CGI file. All the HTML code you need to link the image is also included.

Other free goodies

Once you've experimented with these CGI scripts you may be overwhelmed by the urge to try out other scripts. Matt's Script Archive at **http://worldwidemart.com/scripts** is a great place to start and contains clocks and counters as well as random image generators, animations and countdowns.

HTML Hut at **www.jwp.bc.ca/saulm/html/** contains a range of Java add-ons and animations.

Free Java applets are increasingly available online as programmers get to grips with the language and start posting examples. Animbar, for example, animates a tool bar and is free from: **www.npark.com/applet.html**

Adspace gives you rolling advertisement banners which sit on your page. **www.orbital.co.uk/adSpace/**

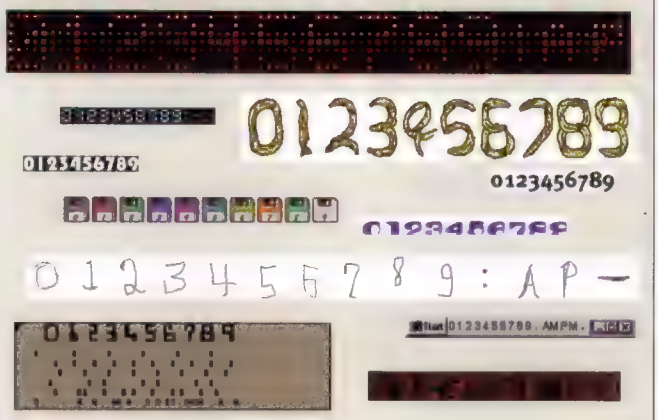
The same site also has Nullpoint, a Java-based presentation package, at **www.orbital.co.uk/nullPoint/**

While Carousel offers a 3D animated site navigation tool at **www.magnastar.com/Carousel/**

But one word of caution here – don't use all of these scripts on the one page.

Garret Keogh

Counter-tastic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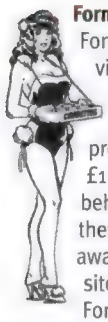
Update: Top sites revisited

There's nothing worse than returning to a Web site to find the content hasn't been updated for months. We visit some of the top sites to find out just how well the Web is being maintained.

Everyone needs a little love and every computer needs a screensaver. So – approximately – runs the latest ad campaign from the Guinness stable. From the people that brought you the screensaver downloaded by just about every office worker with an Internet connection, comes Guinness Part Two – A Star is Spawn.

The screensaver uses advanced animation techniques created by Simon Labbett and David Gamble at Ogilvy & Mather and is available in five flavours. There's a powerful 8Mb option or a puny 4Mb option, depending on your memory specification. And, just in case it's escaped your notice, Guinness makes a mighty fine stout.
www.guinness.ie



Former site of the month, Fortune City, the online virtual city and shopping mall has been given a spring clean and in the process they've found £1 million tucked away behind the sofa, that they're just aching to give away. The folks behind the site are issuing 200,000 Fortune City cheques, each valued at a fiver, and these can be used as a discount on any purchase made from the site.

"FortuneCity.com is already a thriving community and the population is growing – the cheque represents a goodwill gift to our citizens, to encourage their continued support," says Gus Donahue, the current mayor of Fortune City.

He went on to deny this act of benevolence had anything to do with the impending FortuneCity.com elections.
www.FortuneCity.com

Hot on the heels of Capital's Web site comes the Capital Gold Web site, giving you online access to all those mellow tunes.

"Users can access 1548 AM Capital Gold's on air broadcast, in stereo," says Doug McCallum, head of new media at Capital Radio.

Like the Capital site, it boasts a comprehensive search engine. Simply type in the name of the hit and Songfinder will sift through Capital Radio's extensive music library database.
www.CapitalGold.co.uk

The McLibel trial ended back in December but the verdict isn't expected until April or May. The McDonald's legal team didn't make a closing speech but, instead, produced a voluminous 500-page document. Translate that document into a Web site and you have more than 4,000 files eating up 100Mb of space.
www.mcspotlight.org

Guardian Insurance has revising its site. New navigational tools lead you through a series of rooms offering financial information. It's all self-explanatory – the garage represents motor insurance and the bedroom concentrates on home insurance products and so on.
www.gre.co.uk

With the Formula One season well underway, Web sites are clambering over each other to get into pole position. Most notable of these is the Shell-Ferrari Formula One site. Smoother than David Coulthard's chin and much more interactive, make sure you choose the Java version for some very nifty applets.

www.shell-ferrari.com

And, for all of you armchair pit lane gurus, check out the new Fantasy Formula One. Pick your team, drivers and an engine and you're away, It contains all the usual stats and aims to build into an archive of racing data going back to the 1950s.
www.f1-gp.com

Hertz car rentals has added rate quotation and booking features to its Web site. You can now alter an existing reservation or book your hire car in advance online.
www.hertz.com

Why did they do that?

If you have stumbled across any Web sites that, frankly, are an embarrassment, seemed like a good idea at the time but have subsequently gone more than a little pear-shaped, please email me with details at
paulb@computing.emap.co.uk

Hair today, gone tomorrow

Billed as the best and most comprehensive site on the Net for hair loss, this site struck a chord with a number of people in the office. Of particular interest were the dozens of hair loss treatments readily available over the counter.
www.regrowth.com

Itchy fingers

Enough headlice facts and figures to keep you writhing on your chair for days.
www.headlice.org/

DON'T SHOUT

A page devoted to promoting a booklet that aims to tell you how to get ahead in showbusiness. But this site really is a B movie – somebody has gone mad with the blink tag, the spelling is appalling and it's ALL IN CAPS.
www.anaserve.com/~actorsnetwork/

And then there were Nun

And a prayerful of best wishes go out from all the Carmelite Sisters around the world.
www.netcomuk.co.uk/~cygnus/1carmel.html

And finally...

Finally, Internet magazine would like to thank Hamish Symington for the most useless site of the month. It has no fewer than 10 subdirectories, nine with absolutely nothing in them and a tenth which has a file which can't be found.
www.camelot.co.uk

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Expert Help

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Steve Andrews, from Web design company Sm@rtNet (the company behind sites for Vogue, Christies and Classic FM) answers this month's Web design queries.

Roger Gann has been a freelance computer journalist for the past eight years and specialises in the technical side of the Internet from a user's perspective.

Gail Robinson is the editor of *Internet Magazine* and prior to that worked at *What Personal Computer* magazine. She answers those questions that nobody else wants to sort out.

Mike Hales is the managing editor of *Internet Magazine* and he loves his Mac with a passion that is really not healthy. Readers should address their Apple problems to him.

Mike Bracken is *Internet Magazine's* deputy editor and has been involved in Internet research for nine years. He'll be answering any questions you have on products and new Internet developments.

Can I get 33.6 speeds?

Q I've been informed by a BT engineer that I should be happy to get a connection at my current speed of 31.2Kbps over a standard phone line. He went on to say I should get an ISDN connection if I want anything faster. As I have a 33.6Kbps modem and live within a couple of miles of the exchange, I'd expect to get a fast connection.

My IAP, Virgin Net, suggested that BT can change a switch to enable faster data transfer. Is this correct and if so, how will the 56.6Kbps modems work? I realise that this speed is achieved only in the one direction, but if the line is capable of supporting 56.6Kbps, surely it's not unrealistic to expect 33.6Kbps?

Q A couple of months ago I bought a US Robotics 33.6Kbps modem. All went well except for connection rates, my maximum was 28.8Kbps, but the norm was 26.4Kbps. I tried the whole set up on another phone line and performance went up to 31.2Kbps. I came to the conclusion that the quality of the line was to blame, so I got on the blower to BT. "No sir, nothing wrong with our line – must be your extension".

And that was that, until yesterday when they changed the line to a direct exchange connection and I now get consistent 33.6 connections. Can you explain?

A Roger Gann replies: V.34/33.6Kbps modems and the proposed 56.6Kbps modems use entirely different technologies to get their maximum line speeds, so the two aren't necessarily affected by the same telephone line conditions.

33.6Kbps modems depend heavily on the audio quality of the phone line. If the signal to noise ratio of the phone line isn't good then, because they're at the very edge of their technology, these modems can't achieve their maximum throughput rate. The result is a slower connection speed.

The big problem is that modems are far more sensitive to line noise than the human ear so, while it's possible to converse with someone on a relatively noisy line, the same isn't true of modem communications. Back in the days when phone cable was paper insulated, I used to have terrible trouble making reliable connections whenever it rained – the paper got wet and its insulation properties declined. Even today I'm plagued at home by a dodgy cable from the telephone pole in the street to my house and when it's very windy outside I just don't bother dialling out.

I'm not aware of any 'magic' switch that BT has to improve line conditions, maybe it's a routing problem and you might be able to get a shorter, more direct link to the exchange.

As for 56.6Kbps modems, these establish a pseudo-digital link over the only analogue portion of the connection to your IAP – the line between the exchange and your phone socket. In theory, digital connections should be more resilient to noise and I suspect that the problems caused by noisy lines, that give 33.6Kbps modem users so much gyp, will be less of a problem for 56.6Kbps modem users.

Will I benefit from 56.6?

Q I have a 14.4Kbps modem, which cost a small fortune a couple of years ago. I've thought about buying a new 56.6Kbps modem, however I'm not convinced that I'll see any real increase in speed. Assuming that 1.6Kbps is flat out for my modem, I don't see this sort of speed at the bottom of my Navigator window very often. It's usually less than 1,000 bytes per second. Can you convince me that I will really benefit from a modem upgrade?

A Roger Gann replies: Anyone that's used the Internet for any length of time soon realises that

Top reader's tips on CDs and cookies

I read with interest your article in Expert Help regarding the online purchase of CDs from the US. One area you didn't cover is buying used LPs or singles from overseas, via the Net. I've done this on several occasions with varying degrees of success and have now settled on a number of regular suppliers. As far as the financial implications of buying used vinyl from the States goes, if I'm told correctly, it doesn't incur VAT as the goods aren't new. What's more, the prices are about 30 per cent cheaper.

As for shipping, I'm amazed that anyone could charge $40 dollars to ship to the UK from the States – a standard LP of the same weight and dimensions as a laser disc from the dealers I use would cost approximately $20 to post via airmail. You should be careful about shipping rates though,

there's no such thing as a guaranteed service level. Data throughputs vary widely from minute to minute. I've got a 64Kbps ISDN connection and, on a good day, I'll see 8 maybe 9Kbps, but a lot of the time I get 1 or 2Kbps, it's that variable.

But don't get me wrong – I'm not advocating sticking with your 14.4Kbps modem. Of course you should consider upgrading to a 56.6Kbps modem, when they're finally released. The chances are a 56.6Kbps modem won't be much more expensive than a 33.6Kbps modem and so it makes sense to spend a little more to get a better modem. When you do get a good connection to a site, it'll fly and you'll get throughputs of 6 or 7Kbps, all things being equal.

There are a couple of caveats to bear in mind though. Don't forget you'll only be able to get a 56.6Kbps service providing you have a direct phone connection to your local digital exchange. If you have an old exchange or you access the phone system via a local switchboard then you can't use 56.6Kbps.

There's also a 56.6Kbps war in progress between the modem makers, keen to establish a de facto standard well in advance of the official ITU 56.6Kbps standard due at the end of 1998. For more details check out last month's feature on 56.6Kbps technology (Faster Faster, **Internet Magazine**, April 1997, page 38).

always ask before you order or you could get stung. I recommend your readers check out **www.helsinki.fi/~tuschano/records.html**, it's an excellent list of online vinyl and CD dealers.

Edward Griffiths
EdwardGriffiths@rapidcom.co.uk

● Here's my best tip for sorting out cookies on a Macintosh. Simply open the System/Preferences/Netscape folder and delete the file called magiccookie and then create a folder with the same name. As the Mac operating system won't allow a file to replace a folder you'll never get a cookie again!

Simon Britton
simon@fixings.demon.co.uk

Thanks for those tips Simon and Edward. Both of you will walk away with 33.6Kbps fax modems from Electronic Frontier. The Electronic Frontier XL-336EV won a coveted *Internet Magazine* Best Buy award in March. The modem is well specified, offers excellent value for money and had no problems connecting at speeds of 33.6Kbps in our tests.

Search engine tips please

Q I need some guidance about how to get the best results from a search engine.

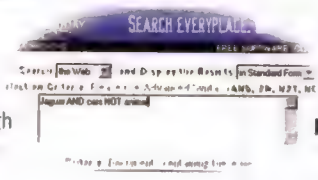
A Gail Robinson replies: Although every search engine works in a slightly different way here are a few general tips on making sure you get the most accurate results.

1 Fine tune your keywords. Use the AND operator to its full effect. For example, if you were searching for info on Ben Elton don't be afraid to add words such as comedy, Black Adder and so on.

2 Use the NOT operator tool. Here's an example, if you want to know about Jaguar cars and not the furry kind of jaguar you'd type in Jaguar AND car NOT animal.

3 Make sure you use capital letters. Most search engines automatically recognise a name if you use capitals for the first letter of each name. If you type in your search in lower case the search engine will usually go away and search both lower and upper case words, but type your search in upper case and it will only look for upper case words.

4 Take advantage of the Query by Example option offered by many search engines. Usually this option pops up once you've typed in your search criteria.



AltaVista is the most comprehensive search engine on the Web and has some sophisticated search features including the usual AND, NOT operators and a Search by Date feature.

Q I have a question concerning the AltaVista search page If your search result returns many matches, it allows you to select the first 20 pages worth of results, but how do I see the other pages?

A Mike Bracken replies: The simple answer is that you use another type of AltaVista search. When you enter a simple search term that generates more than 20 pages of results, the results you're most likely to want are contained in the first few pages. AltaVista has found that the average number of results pages accessed is three, with the upper limit being seven.

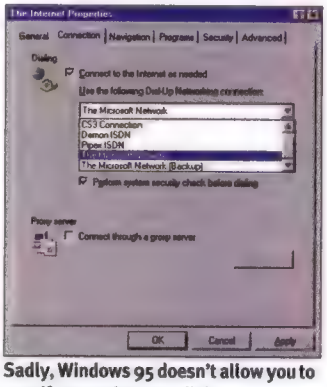
If you need to collate a vast number of search results, then first check the total number of results generated on the first results page. If you enter 'golf', for example, under a simple search, then AltaVista finds 1,140,747 results, far too many to list in individual pages. The first 20 pages are deemed to be the most relevant by AltaVista, but if you want to dig down further, click on the LiveTopics option. This will help you refine your search further before downloading pages. Once you've refined your search, click on LiveTopics to view a graph that outlines the relationship between the various results.

Setting up more than one IAP

Q I use more than one IAP but I can only specify one Dial-up Networking connection at a time under Windows 95. This means that it tries to dial up this connection rather than the one specific to the IAP. Can I configure a browser to use a particular Dial-up Networking connection?

A Roger Gann replies: In the case of both Internet Explorer and Navigator, Windows 95 only allows you to have one default Dial-Up Networking (DUN) connection. If you right click on The Internet icon and select Properties and then click on the Connection tab, the pull-down menu here allows you to select the DUN connection to use. But it's just one connection, no matter what browser you fire up, it'll always fire up this connection.

The easiest way to get around this problem is to initiate the DUN connection first and then fire up the browser. That way the browser has no option. You could also simplify things by making short cuts to your various DUN connections and placing them on the desktop.



Sadly, Windows 95 doesn't allow you to specify more than one dial-up connection at any one time.

Sending files to Internet Mail

Q Is it possible to send Microsoft Office for Windows 95 files directly to Microsoft Internet Mail, rather than to Exchange as email attachments? At the moment, the Send to command on the File menu directs the current Office file to Exchange and, as I use Internet Mail, it'd be much more convenient to send the file direct to Internet Mail.

A Roger Gann replies: The short answer is, it ain't easy, although, for most users that don't have a permanent Internet connection, the Internet Mail client is a much leaner and faster alternative to the rather ponderous Exchange mail client.

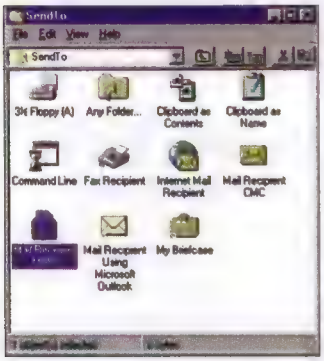
According to the Word help system, you can use any 32-bit MAPI or VIM-compliant mail client in conjunction with Word, Excel et al. However, it doesn't elaborate beyond this.

Unlike the Send To option that's available on the Windows 95 desktop, the Word Send To option on the File menu can't easily be edited. The menu commands come from the .DLL file associated with your email program (for example, MAPI.DLL or MAPIVIM.DLL). As a result, you can't change the names of these commands in Word.

In Windows 95, the MAPI entries are held in the Registry and so are tricky to edit. If you're of a programming bent you might care to take a peek at the FileSendMail (FileSend) commands in a macro editing window. You could uninstall Exchange, leaving only one MAPI-compliant mail client on the system, Internet Mail, thus giving Word no choice in the matter.

An alternative would be to save the Word document and then right click on it in Explorer and using the Send To option send it to the mail client of your choice. If you created a shortcut that pointed at Internet Mail, this would appear as an option whenever you right clicked on a file and selected Send To.

By the way, you should also get hold of the Power Toys freebie suite (download it from the shareware site http://tucows.cableinet.net/) This program automatically adds a number of Send To options, including Internet Mail Recipient and Mail Recipient MAPI.



Instead of messing around with DLLs you could simply use the Send To option to direct a file to Internet Mail.

Re-using JavaScript

Q I'm trying to do a couple of things in JavaScript that I'm sure should be very simple. Unfortunately I can't get them to work.

1 I want to take an existing JavaScript and store it as a separate file (test.js?) so I can use the same script on many HTML pages. How do I do it?

Here's what I've got at the moment. In the <HEAD> section of the HTML page I have the following code

```
<SCRIPT LANGUAGE= 3D"
JavaScript" SRC=3D"test.js">
</SCRIPT>
```

The test.js file is a plain text file stored in the same directory as the HTML page and is constructed as follows:

```
<!— comment line to hide script
The actual script here
end hide script —>
```

Is the test.js file supposed to have some other format, perhaps a header of some sort? When I try to use the HTML page in Internet Explorer 3.0 or Netscape 2.0 I get an error message saying that the subroutine called from within the page is undefined.

2 I'd also like to know how I can activate /start/run a Java applet using JavaScript?

A Steve Andrews replies: As Web designers, we're constantly asked how we can include certain features and functions but still be sure that the site is 100 per cent viewable in every browser known to man. Unfortunately, some things are just not possible, or you need to fine-tune the particular discipline (in this case, JavaScripting) to cater for the nuances of browser compatibility.

The JavaScript, as you have built it, won't work in anything less than Netscape 3. That's not to say that there's necessarily anything wrong with your JavaScript – but you will have to reconstruct it to include the actual script within the HTML file.

Try that and you should have no problems getting it to run under Explorer 3, Netscape 3 or Netscape 2.

Moving on to your second point on how to run a Java applet using JavaScript. Your best bet here is to use Liveconnect (again it's only available for Netscape 3 or higher though). You'll find it at:
http://home.netscape.com/comprod/products/navigator/version_3.0/building_blocks/liveconnect/how.html

Help needed with frames

Q My Web page is split into two frames – on one side are links to other pages and on the other side is my page. The question is, when I press a link it links OK but only in that half where the links are and not the whole page. How do I get it to jump to the whole window in Navigator as if I were viewing the site straight from the Web?

A Steve Andrews replies: The first thing you need to specify is a target within the HTML code for the link.

For example:

```
<frameset cols=50%,*>
<frame name=left
src="left_page.html">
<frame name=right
src="right_page.html">
<frameset>
```

Then the links in the left hand page need to specify the right hand frame as the target:

```
<a href="some_link" target=
right>Link name</a>
```

Or, if you want to load the link in a new window, you need to specify a target name that isn't in use:

```
<a href="some_link" target=
new_win>Link name</a>
```

FrontPage hosting services

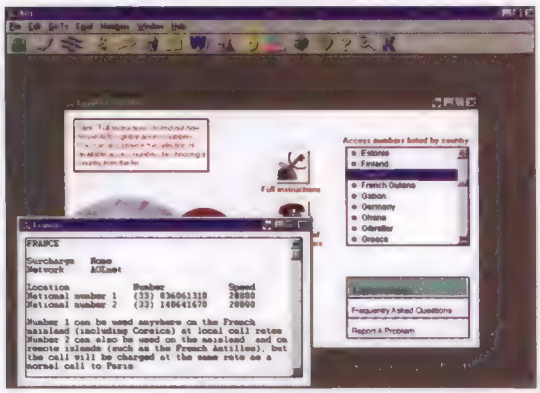
Q Microsoft FrontPage is a great product but to get the best out of the software you need to host your site with an access provider which supports FrontPage extensions. Can you provide a list of relevant IAPs?

A Gail Robinson replies: There are currently a batch of access providers which support the FrontPage extensions including...

CompuServe on (0800) 289 378
WWW Services on (01784) 466 555
NetLink on (0171) 831 8000
Net Benefit on (0171) 336 6777
Aurora Web Services on (01752) 691 058
Corpex on (0171) 242 4555.

Email from around the world

Q I have friends who want to get connected to the Net, mainly so they can send and receive email (possibly with files attached). Their main problem is they travel around continental Europe a lot on a barge. They have an Apple PowerBook and a mobile phone, which allows them to keep in contact by fax but would prefer to have a Net connection. Are there any providers that are Europe-wide? If so, which would be the best ones to use and how do we contact them?



AOL serves Europe, although it's worth checking for surcharges.

A Gail Robinson replies: Yes there are a batch of providers which will work Europe-wide.

The IBM Global Network has servers in every European country. A subscription to the service costs £17 per month. Call them on (0800) 973 000.

CompuServe also has POPs (points of presence) in Europe. The monthly cost starts at £6.50. Call CompuServe on (0800) 289 378.

AOL has a wide presence throughout Europe although some of the numbers carry surcharges. The level of surcharge depends on the country you're in and ranges from £4 through to £16 per hour. AOLnet numbers in countries such as France, Germany, Canada and the US don't charge extra, however.

MSN covers most of Europe too and even if they don't have a POP in a certain country they have peering agreements with other IAPs that allow them to offer near local call cost services. MSN costs from £4.95 per month. Call them on (0345) 000 111.

If you're stuck in Holland you'll be glad to know that Demon has a point of presence there. Sadly it has no other POPs in the rest of Europe as yet. A Demon subscription costs £10 per month. Get more details from (0181) 371 1234.

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Adding tables to your site

Tables are one of the most important components of a Web designer's toolbox. David Bradwell thanks Netscape for introducing the concept, back in 1995, and reveals how you can make good use of tables on your site.

Take a stroll around the World Wide Web and you'll see sites as well-designed as some of the glossy magazines. You may assume this is some sort of big-budget trickery reserved for the financially plush, but thankfully you'd be wrong.

Layout on the Web is all about tables, which Netscape added to HTML in 1995. And, once you know what you're doing, you can use tables to create a site that's every bit as attractive as the most expensive site on the Web. First, though, it's worth remembering the golden rule: tables don't need borders.

Sometimes borders come in handy – especially when you're

This is a table...duh

Stuff	More Stuff	Even More Stuff
Row 2 stuff	Aunt Fanny's flapjack recipe	And Even More Stuff

Fact: Tables do not need borders.

experimenting with a page – but in the vast majority of cases you should make them invisible. Let the table do its work in the background, helping you position all the page elements exactly where you want them, but without any nasty outlines to destroy the effect.

In many of the examples I've given here, I've left the borders turned on, but that's just to show you how tables work. Remember, a visitor might not want to marvel at your HTML mastery, preferring, instead, simply the best possible page design.

Second, if you want to get really flash, you can also nest tables within other tables for particularly gorgeous effects. But first we'll address the basics.

In most of the articles in this series we've used Microsoft's Internet Assistant for Word as the default HTML editor. Now though, to keep track of evolving technology, I'll use Word 97 as it has HTML capabilities built in.

However, don't worry if you're still using an older version of Word, or a different HTML editor (such as FrontPage, Spider, HotDog or HoTMetaL Pro) the principles behind creating tables are much the same.

Actually, for tables, it's worth mastering the source HTML code so you can tweak the results produced by your editor to get exactly the effect you want.

Before going any further, it's also worth pointing out that there's a tremendous Table Tutor available on the Web. The URL is **http://junior.apk.net/~jbarta/tutor/tables/index.html** and some of the screenshots in this article are taken from there.

Don't be put off if you take a look at the next couple of pages and see a mountain of code. It's actually very easy to follow and, in any case, your HTML editor should take care of most of the essentials for you.

The basics: Creating the table grid

Adding a table to your page is actually a doddle. In Word 97 all you have to do is click on the Insert Table icon in the menu bar and then select how many rows and columns you want. When you click on the icon a box pops up with a grid inside.

As you run your mouse over the grid, the cells will light up, and a message at the bottom of the box will tell you how many rows and columns you've selected.

Select the table size graphically in Word 97.

Simply click in the cell that corresponds to the size of the table you want, and it'll be added to your document. You can always add or delete rows and columns later.

Each area within a table is known as a cell and each cell can contain pretty much anything you want. You can add text, graphics, a combination of both, or even another table.

But, having said that, Microsoft's Internet Assistant for Word falls down in this last respect as it won't let you nest tables one within another.

Sadly, it looks like an upgrade for this obvious failing will never materialise, as Microsoft would rather you upgraded to the new version of Word which is altogether much more powerful and more expensive. And, of course, don't forget that Bill Gates needs the money.

Table tags

If you're using raw HTML, there are three tags you need to know about. <TABLE> is the main one and it tells the browser that the page contains a table. The table tag also contains

some attributes about size, border width and the like. The other key tags are <TD> which specifies an individual cell (where TD stands for Table Data) and <TR> (Table Row) which defines a horizontal row of cells.

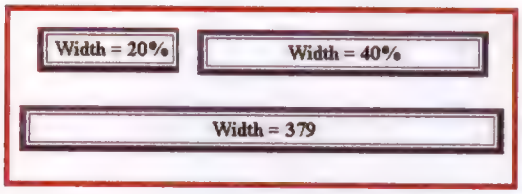
Borders and other table attributes

A border is easy enough to add if you decide you really can't do without one. All you have to do is add BORDER=X within the <TABLE> tag where X is the thickness of the border.

For example,
<TABLE BORDER=3>
would give you a fairly standard outline, while
<TABLE BORDER=0>
makes the table invisible and
<TABLE BORDER=25>
would be perhaps slightly over the top.

Table borders are easy to size.

Another useful attribute is WIDTH. This determines how much of the width of your browser window is occupied by the table. This can either be a percentage or a fixed number of pixels. For example,
<TABLE WIDTH=40%>
would produce a table which continually re-sizes to occupy 40 per cent of the browser window's width, while
<TABLE WIDTH=379>
produces a table which is always 379 pixels wide (*see below*).



If a visitor tried to view your site with a browser window smaller than 379 pixels, a scrollbar would automatically appear at the bottom of the screen.

You can also adjust the height of the table with the HEIGHT attribute. For example,
<TABLE HEIGHT=100>
produces a table 100 pixels tall.

You can combine all these attributes together. So, for example, it would be perfectly reasonable to have <TABLE BORDER=5 WIDTH=40% HEIGHT=100>.

That's not all though. You can centre an entire table by placing
<CENTER> </CENTER>
either side of it.

Alternatively you could align the table to the right with...
<P ALIGN="RIGHT"></P>

You can also determine how much space there is between cells within a table, and between the border of the cell itself and its contents.

The attributes for these are CELLSPACING and CELLPADDING respectively.

If you wanted to add some room within the table, to let individual cells breathe, your TABLE tag could look like this:
<TABLE CELL PADDING=15 CELLSPACING=15>

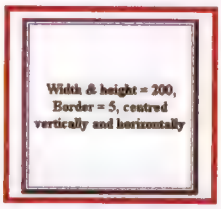
Taking it cell by cell

You can also apply attributes within both table row <TR> and table data (cell) <TD> tags.

For example, you can horizontally align text within a cell like this...
<TD ALIGN="LEFT">
for conventional left-alignment
<TD ALIGN="CENTER">
to centre the text within a cell
<TD ALIGN="RIGHT">
to make the text run flush right.

You may find that you want to arrange text vertically within a cell, so:
<TD VALIGN="TOP">
starts it at the top
<TD VALIGN="MIDDLE">
centres it vertically
<TD VALIGN="BOTTOM">
makes it stick to the baseline.

With all of this in mind, the code for a sample one cell table, as shown right, would look a little something like this:




```
<TABLE BORDER=5
WIDTH=200
HEIGHT=200>
<TR>
<TD> VALIGN="MIDDLE" ALIGN=
"CENTER">Width & height = 200,
Border=5, centred vertically and
horizontally</TD>
</TR>
</TABLE>
```

Obviously you can also include an image within a table cell, so then you would replace the text with
<IMG SRC="filename.gif">.

Adding colour

The latest versions of the most popular browsers let you add colour to tables. Be slightly wary of this – visitors with older browsers could get very confused. Imagine that your page has a white background and, to create a contrast, you want a black table with white text. If somebody visits with a browser that doesn't support coloured tables they'll just get invisible white text against the white background – and then wonder why the page is taking so long to load!

If you want to add colour though, it's actually very easy. All you have to do is add the BGCOLOR attribute to either the <TABLE>, <TR> or <TD> tags, for example,
<TR BGCOLOR="#FF9999">
would colour a whole row.

Placing the code in the <TABLE> tag would colour the whole table, while placing it in the <TD> tag would just colour a cell.

The "#FF9999" part is the hexadecimal value of the colour you want. If you don't know about hexadecimal colour values I strongly recommend you download the Colour Manipulation Device – a tremendous utility from www.meat.com.

More about tags

The basic code for a page which contains a table looks like this...

```
<HTML>
<HEAD>
<TITLE>Internet Magazine</TITLE>
</HEAD>
<BODY>

<TABLE>
</TABLE>

</BODY>
</HTML>
```

This is a fairly dull page as it doesn't actually contain anything. Every table needs at least one row and cell, and so you need to add more information within the <TABLE> and </TABLE> tags.

If you enter the following:

```
<TABLE>
<TR>
<TD></TD>
</TR>
</TABLE>
```

the <TR> and </TR> tags show that there's a row, and the <TD> and </TD> tags show there's one cell in the row. A page with three rows of one cell each looks like this:

```
<TABLE><TR>
<TD> row one </TD></TR><TR>
<TD>row two</TD></TR><TR>
<TD>row three</TD></TR></TABLE>
```

while a single row with three cells looks like...

```
<TABLE><TR>
<TD>cell one</TD><TD>cell two</TD><TD>cell
three</TD></TR>
</TABLE>
```

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Arranging cells within a table

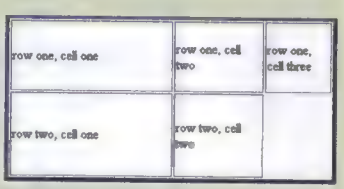
What happens, then, when you want to place multiple cells within a table? Well, you can arrange the cells so that they each appear as tall or as wide as you want. If, for example, you have three cells and you want the first to occupy 60 per cent of the width, leaving 20 per cent for each of the other two, the code would be:

```
<TR>
<TD WIDTH=60%>cell one</TD>
<TD WIDTH=20%>cell two</TD>
<TD WIDTH=20%>cell three</TD>
</TR>
```

If you then add another row beneath the first one, the width attributes of the first row carry over to the second. So, if you're happy with the proportions, you could get away with:

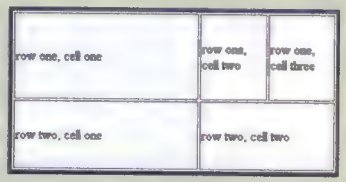
```
<TR>
<TD WIDTH=60%> row one, cell one</TD>
<TD WIDTH=20%> row one, cell two</TD>
<TD WIDTH=20%> row one, cell three</TD>
</TR>
<TR>
<TD> row two, cell one</TD>
<TD> row two, cell two</TD>
<TD> row two, cell three</TD>
</TR>
```

If there are only two cells in the second row, they adopt the widths of the first two cells in the row above, and leave an empty slot as shown in the screen shot right. You can get round this by using the COLSPAN (Column Span) and ROWSPAN (Row Span) attributes.



Width attributes carry over from the top row – and if there's one less cell in the second row you get a gap...

As the name suggests, these attributes force cells to span multiple columns or rows. So, if you add COLSPAN=2 to the second <TD> tag on the second row you get the following code (your table should look like the one pictured above)...



... unless you use the COLSPAN attribute.

```
<TR>
<TD WIDTH=60%> row one, cell one</TD>
<TD WIDTH=20%> row one, cell two</TD>
<TD WIDTH=20%> row one, cell three</TD>
</TR>
<TR>
<TD> row two, cell one</TD>
<TD COLSPAN=2> row two, cell two</TD>
</TR>
```

The ROWSPAN attribute works in a similar way.

```
<TR>
<TD WIDTH=30% ROWSPAN=2> column one</TD>
<TD WIDTH=35%> row one, cell two</TD>
<TD WIDTH=35%> row one, cell three</TD>
</TR>
<TR>
<TD COLSPAN=2> row two, cell two</TD>
</TR>
```

Incidentally, a <TD> colour over-rides a <TR> colour, while a <TR> colour over-rides a <TABLE> colour.

Ever onwards...

That's tables pretty much wrapped up, although it's worth mentioning the recent scare story about Netscape Communicator (the successor to Navigator).

The story, quite rightly, pointed out that Communicator renders tables in a different way to every other Web browser, and that page designers would have to add an extra line of code to every table on every site to prevent them scrolling to the right to eternity. The problem is resolved by setting the width of the table strictly in accordance to the material within.

However, the good news is that the problem seems to have just affected the first beta version of Communicator and, because that times out soon there's no real need to worry about it. Of course, we'll let you know if the situation changes.

Ultimately, then, table tags are well worth mastering because they're the key to great Web page layouts.

And if you want to insert a table within a table you just put the <TABLE> </TABLE> tags within a cell and start again from there.

Next month we tackle the ever tricky subject of forms. Crash helmets at the ready.

David Bradwell is the European Web master for RealAudio and is former Deputy Editor of Internet Magazine. This series of articles is based on the Pure Fiction Web site at www.purefiction.com where you'll find examples of the subjects covered.

faxback

In this series we've covered the following:

1. Planning a site and basic HTML
2. Creating graphics for your site
3. Setting up your site on a server
4. How to get traffic to your site
5. How to create a newsgroup
6. How to enhance your site
7. How to make cash on the Web
8. Animating the Web
9. How to add frames to your Web site

If you missed any of these articles, they're available via Faxback, see page 149 for more details.

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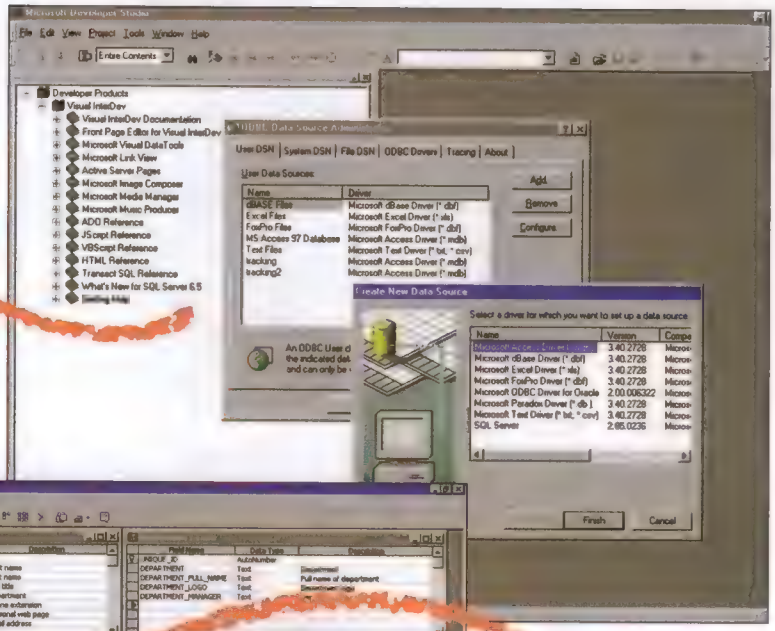
How to create an active Web site

Microsoft's Interdev creates Active pages by linking Web sites to applications without the need to write complex scripts. In the first of a two-part series, Steve Browne shows you just how easy it can be.

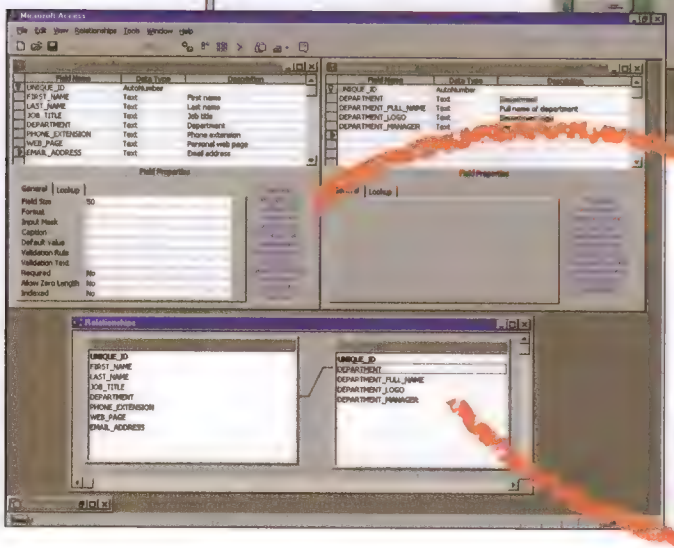
Creating active Web sites that can access data from a live database or can react to visitors' input has, historically, been tricky and expensive.

Microsoft's Visual Interdev for Windows 95 and Windows NT 4.0 sets out to change all of that. It brings with it a batch of new technologies which allow any semi-proficient developer to create sites that have massive impact. In this series of articles we'll be looking at how to use Visual Interdev to create an active Web site.

But first a quick tour around Microsoft's Interdev...



Screen 2
After creating your database, you need to set it up as an ODBC data source, so that Interdev can see it properly.



We used Access to create a simple database of staff details.

Screen one
A relationship has been set up between the department fields on the staff and the departments tables, for future use.

What Interdev is all about

Visual Interdev helps Web site developers pull together all the components you need to create an active Web site. Microsoft's vision is based around a new technology known as Active Server Pages (ASPs). ASPs are standard HTML Web pages, which contain code the Web server runs before sending the page to the client. An obvious benefit of this is that the client doesn't have to support VBScript or JavaScript – the server does all the hard work for you.

Of course, now you can run real code within HTML, the Web world is your oyster, especially when it comes to hooking into databases to generate pages on-the-fly. Interdev supports this kind of work well, it allows you to connect to any ODBC-supported data source. ODBC stands for Open Database Connectivity, a standard developed by Microsoft through which applications can access databases in a variety of formats. All a database needs so it can be accessed is an ODBC driver.

After setting up the ODBC connections in your Control Panel, they can be referenced directly by the embedded code with the ASP. Three lines of code within the page open the data source and read the records in, based on the SELECT statement used.

The data is returned in an array object, which can be stepped through to process each field in turn. For some tables, this may mean just putting the relevant HTML tags around the code so it displays in a table, or it might involve a certain amount of processing (running totals and so on).

Using Interdev is fairly easy, Visual C++ and Visual J++ programmers will feel immediately at home, although Visual Basic programmers will have to get used to a different

development environment. The main screen is split into two areas. On the left you'll see the current workspace, which contains the list of files in the current project, and the data layout of any attached databases. The right hand of the display is the viewer window. This window is multi-functional, and here you edit the source code, preview the Web pages and view the online help system, which is now all in HTML format.

Getting a site up and running

Creating a new site is a matter of loading up Interdev and pointing at an existing Web server. Throughout this review, we used the Windows 95 Personal Web Server, but the Web server could just as well be a Microsoft IIS server. The server will need FrontPage extensions though. Interdev operates on FrontPage Webs – a format that allows multiple clients to work on the same Web site at the same time, and also allows you to download and upload large sections of a Web site. This is great if you're running a big Web site as it means a number of programmers could be working on the same site simultaneously.

Adding ActiveX controls to an HTML page is simple; just highlight the position within the HTML code, and choose the insert ActiveX Control menu item. This brings up a graphical screen where you can see the ActiveX control, and change its parameters. Once everything is set correctly, the code to display this ActiveX control is automatically pasted into the HTML. As Visual Interdev is part of a greater package, Visual Studio 97, these ActiveX controls could be written in any of the other languages in the suite, such as Visual Basic 5.0 or Visual C++ 5.0.

You get a handful of wizards, which carry out all the tasks you need to get a project up and running. The most useful of these is the Departmental Site Wizard, which allows you to quickly create an intranet site. Obviously, you'll need to give the pages a quick edit, but it does remove much of the donkey work.

Visual Interdev may take some getting used to, it introduces the idea of Web-based applications. But once you've got to grips with the concept, Interdev will allow any programmer to produce powerful sites very quickly.

Product details

Microsoft Visual Interdev 1.0
Price £399
Pros *An excellent way to create active Web pages, and to hook into databases; good online documentation and team-working features.*
Cons *Microsoft-specific solution; needs Microsoft FrontPage extensions on the Web server.*
Phone *(0345) 002 000*
Web www.microsoft.com/interdev/

Creating an intranet

In this walkthrough, we're going to use Interdev to create a company staff database, which can be accessed through an intranet Web server.

Before you start

To use Interdev to create active Web sites you need three things: Interdev; a Web server; and a database. In these examples, we ran everything under Windows 95, using Microsoft's Personal Web Server and Access as the database.

Interdev needs about 90Mb of hard disk space in its own directory, but depending on what you install from the Visual Studio CDs this could run to a massive 300Mb. Personal Web Server, also on the CD, allows developers to create active Web sites on a Windows 95 set up without having to connect to a full-size external Web server. However, you do need to make sure that DNS is turned on within your Network Control Panel applet (this allows Interdev to upload and download files from the Web). Once you've installed Personal Web Server, you also need to install the FrontPage Extensions from the Interdev CD.

Database at the ready

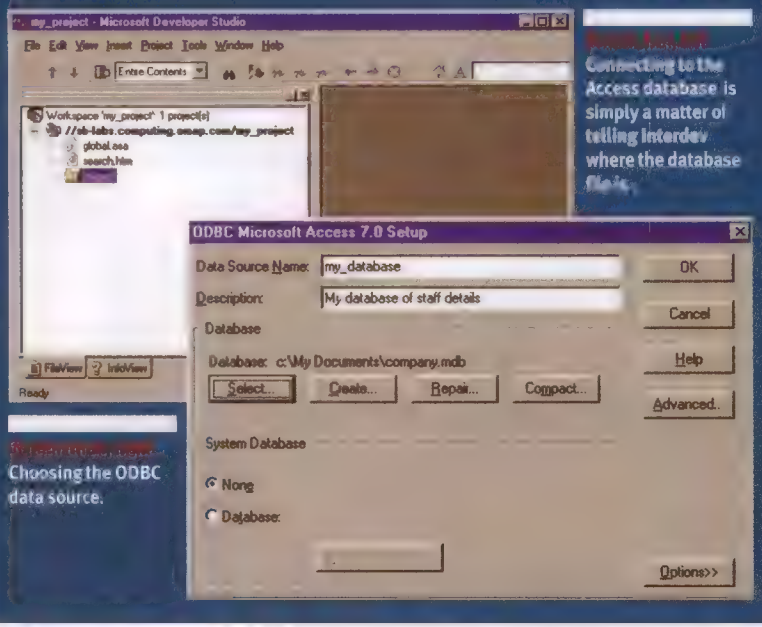
To actually create pages on-the-fly, we need a database with real data in it. For this example, we'll be using two tables with the following fields:

Table name: Staff
FIRST_NAME
LAST_NAME
JOB_TITLE
DEPARTMENT
PHONE_EXTENSION
WEB_PAGE

Table name: Departments
DEPARTMENT
DEPARTMENT_FULL_NAME
DEPARTMENT_LOGO
DEPARTMENT_MANAGER

Both tables also have an auto-numbered field, UNIQUE_ID, which protects against record duplication (see screen one, p129). In the Access relationships dialog box, we've created a relationship between the two tables, using the DEPARTMENT field as the common link.

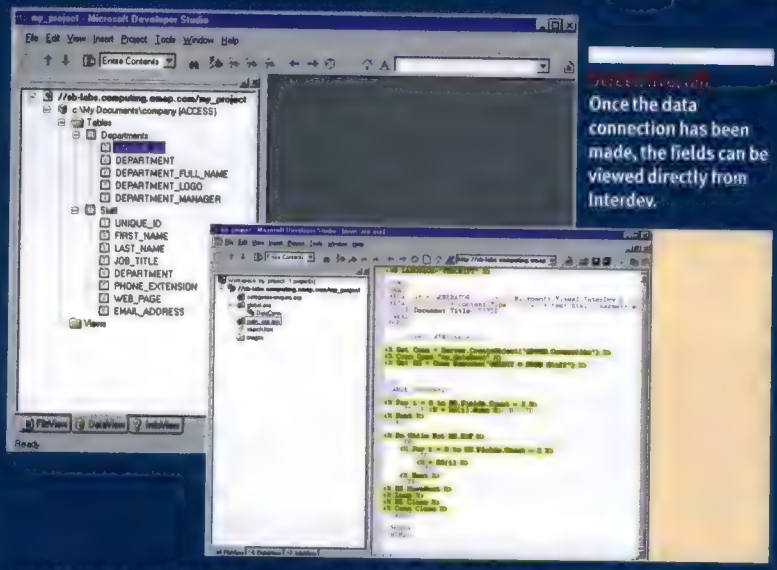
Enter, or import ,the appropriate data into Access and close the application. Before this database is available to other ODBC-aware applications, however, we



Connecting to the Access database is simply a matter of telling Interdev where the database file is.

Choosing the ODBC data source.

application using Interdev



Once the data connection has been made, the fields can be viewed directly from Interdev.

need to set up an ODBC data source in the Control Panel (see screen two, p129). To do this, open the Control Panel and double-click on the 32-bit ODBC icon. This will display a dialog box listing the current data sources on your machine. Then click Add. This will show a dialog box like the one shown in screen three. Clicking the Finish button allows you to select the actual database file from the disk, as shown in screen four.

To start our Web site, we can add an Active Server Page. Interdev creates an HTML template for you.

Set up the connection from Interdev

To actually start a new project we need to create a Web site. This is done by choosing the File New menu, which then lists the various project types Interdev can handle. As this example is an active Web site, we'll just choose the standard Web Project Wizard. This prompts you for the name of the Web server. As we're using the wizard, we use the name of the local machine defined in the Network DNS settings. Interdev will then contact the Web server and create the empty Web pages for us. Once you've created the default pages, you'll end up with a screen similar to screen five.

Before we create any pages, we need to make sure our database connection is working. After right-clicking on any of the files within the workspace, you need to select the Add Data Connection menu item. This allows you to choose the ODBC data source we set up earlier. In this case, our document name is my_database.

The data connection then appears within the workspace, and an additional tab pops up at the bottom of the windows, which allows you to view the fields within the database directly from Interdev (see figure six).

Active Server Pages

To access the database, and create HTML on-the-fly based on the database contents, we need to create an Active Server Page. This page contains code that the server runs, and which extracts the data from the database and inserts it into our HTML page.

ASPs are added to the project by choosing File, New and creating an Active Server Page. Make sure you give the file an ASP extension, or the Web server won't interpret and execute the code. You'll then see the standard blank ASP page which will display in the right windows pane, as shown in figure seven.

The idea of this first page is simply to display everyone's details in a table – no filtering or processing, just a dump of the database in a semi-formatted way. Adding the code is simple. Just delimit it by using "<%" to signify the beginning of code, and "%>" to signify the end of the code. The Interdev editor gives you visual feedback immediately, as every section of code is highlighted in yellow.

Figures seven and eight show the code is used and the actual output from the code. Note, we haven't chosen any kind of sorted output, so the records are displayed in the same order they fall in the database. The SELECT statement allows us to sort the output.

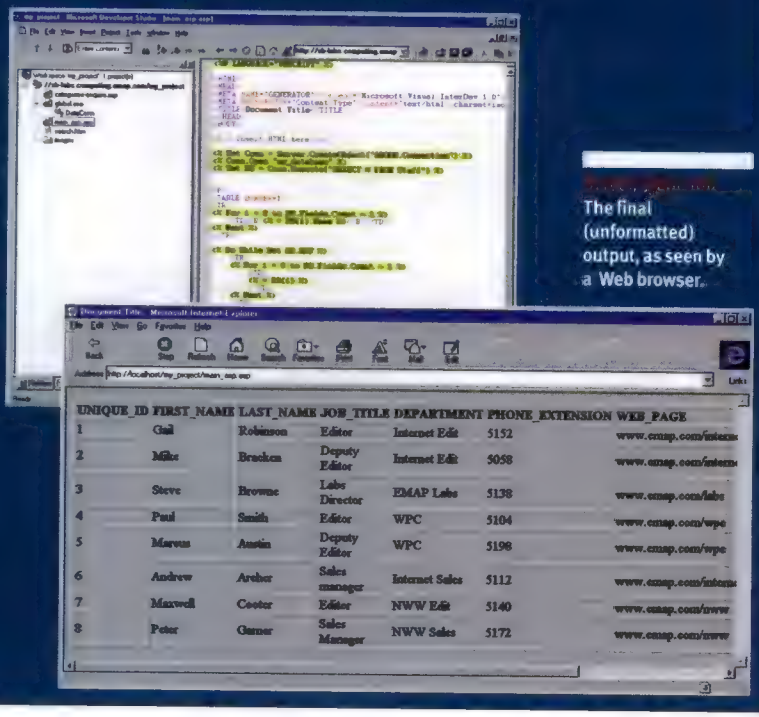
Spicing up the pages

Because the template the data is inserted into is standard HTML, you can do anything with it that you can do with a Web page. You do have to be careful though because there's embedded code and database fields inserted into the page, but all the code is highlighted in yellow, so it's easy enough to avoid potential trouble spots. The easiest way to process the data is to use IF statements. If we know that the fifth field is the name of the department, then we can use an IF statement within the code to determine when the fifth field is displayed. The action in the IF statement could be a simple change of colour or font, or it could be another database look-up, this time on the Departments table, to display the full name.

A quick edit of the HTML code allows us to change the background colour and typefaces used in the tables, and also to number the records as they're displayed. It's also possible, with the right SELECT statement, to create completely new pages, which could, for example, just list everyone in a particular department. This kind of drill-down feature is fairly easy to implement. However, it's best to use separate template pages for each kind of query, to keep each page as simple as possible.

Of course, as each page is constructed on-the-fly, one machine can be updating the database, while everyone else would see the changes reflected the moment they reload the page. This ease of use and on-the-fly updating should make Interdev a key part of many Web developments.

The yellow highlights the VB Script run by the server.



The final (unformatted) output, as seen by a Web browser.

UNIQUE_ID	FIRST_NAME	LAST_NAME	JOB_TITLE	DEPARTMENT	PHONE_EXTENSION	WEB_PAGE
1	Gail	Robinson	Editor	Internet Edit	5152	www.emap.com/intern
2	Mike	Bracken	Deputy Editor	Internet Edit	5058	www.emap.com/intern
3	Steve	Browne	Labs Director	EMAP Labs	5138	www.emap.com/labs
4	Paul	Smith	Editor	WPC	5104	www.emap.com/wpc
5	Marcus	Austin	Deputy Editor	WPC	5198	www.emap.com/wpc
6	Andrew	Archer	Sales manager	Internet Sales	5112	www.emap.com/intern
7	Maxwell	Cooter	Editor	NWW Edit	5140	www.emap.com/nww
8	Peter	Garner	Sales Manager	NWW Sales	5172	www.emap.com/nww

Putting your business online

An Internet site can generate business, raise your brand awareness and increase communication with customers. David Cartwright outlines the questions you need to answer before devoting time and what can be a huge amount of money to creating a Web site.

The complexity of Web sites varies wildly, from a few basic pages to expensive collections of data, images, sound and video. There's no one way to develop a Web site, it's a case of identifying the type of Web site that's best suited to your business.

Big businesses with global brand names to protect can afford to spend millions consolidating their trademarks on the Web, as Sony and Coca-Cola have shown. Smaller outfits with regional services or niche products often need a cheaper, quick and dirty solution. Whatever the scale of your site, there are some questions you need to answer before you leap into the unknown.

Do I need a Web site?

The answer is, invariably, yes! As a means of corporate branding, distribution, marketing and advertising, a Web site is inexpensive, unparalleled in its ability to hit a target audience and can react to customers automatically and immediately.

A more relevant question would be: do I need a semi-developed, half-hearted unfocused Web presence? Here the answer is a definite no! Since Web sites are designed to serve existing and prospective customers, nothing will turn people off more than a poorly designed, slow, difficult-to-navigate site.

This doesn't mean your Web site needs to be hugely expensive, just that you need to think about what business functions it's designed to fulfil. So, step one is to sit down and decide what return you expect from a Web site. It could be financial, it could be to get more information about your customers or it could be to increase public awareness of your company.

What am I going to put online?

It's more of a matter of what don't you want to include. For example, imagine you're an estate agent, and you want to use the Internet as another channel to your customers.

The easiest way to start might be to have a series of pages, one per house, with a photo and a brief description of the property. You could have one house per page, with a master index grouping

In the soft drink war brand image is all. Shown above is the very subdued site for Coca-Cola (www.coca-cola.com) and, to the right, is the altogether more vibrant Pepsi site (www.pepsi.com). Both serve the purpose of reinforcing the brand, both flog a selection of brown fizzy drink-type merchandising and both offer electronic post cards so visitors to their sites can send the Pepsi/Coke message around the world.

Pictured top right is Sony's site (www.sony.com).There's a mass of content on this site covering all areas of Sony's business.

the properties by price range, by location, by size, and so on. You could add a search facility, enabling customers to choose all properties in a given price range. Perhaps you might like to have a video walk-through of the property (but beware here your customers might get bored waiting for video downloads via modems). You could even use something like QuickTime VR to produce user-driven interactive houses, but remember, alongside the huge download time, you're adding complexity to the process of updating information.

At some point along this Web site development chain, you have to decide when to stop adding new features and technologies. The key factor in this decision will invariably be money. To help you decide how far to go, look at rival firms' Web sites and check out our **Site Surveyor** pages (see page 106).

In-house or farmed out?

Once you've looked at what you're going to put online, it's time to think about exactly who is going to create this site. There are hundreds of Web development agencies desperate to take your money and it's tempting to outsource the whole job and let them worry about hitting deadlines and sorting out CGI scripts.

However, remember that even if you outsource the development of your site you'll still have to spend time specifying, in detail, what you want your site to do. And do make sure each feature is costed before agreeing to it.

Keep a tight control of your budget. Make sure you take pitches from several agencies, and that delivery dates are set with financial penalties if the company doesn't deliver on time. Check that the agency has enough staff and resources to deliver on its promises, check out its portfolio and talk to its existing clients.

Outsourcing computing tasks of any kind has huge advantages: you don't have the day-to-day worries of code development and maintenance and you don't have to think about employing more staff. You just specify the problem and let someone else worry about how to implement the code.

Of course, there are drawbacks too. The major disadvantage is geographical. The server hosting your Web site will probably be located outside your organisation. This means you'll have to define some strict service levels. For example, you could say the server cannot be down for more than 30 minutes during one month; you could then go on to specify that all updates to the site must be made within one hour of the Web development company receiving them. Again, financial penalties can be set for failing to deliver on these agreements.

Doing it yourself

Alternatively, you might work in a relatively high-tech company with its own expertise, in which case you might prefer to create the Web site in-house.

Only you know if you have the resources and ability to construct the site, but don't forget to budget for upgrading and maintaining its appearance and content.

Also, if the site is designed to provoke customer feedback, users will expect quick answers, so give yourself enough time to manage responses. You might even decide that a halfway house is the answer – you hire a machine, or a part of a machine, on a service provider's network to host the site but you do all of the development work yourself.

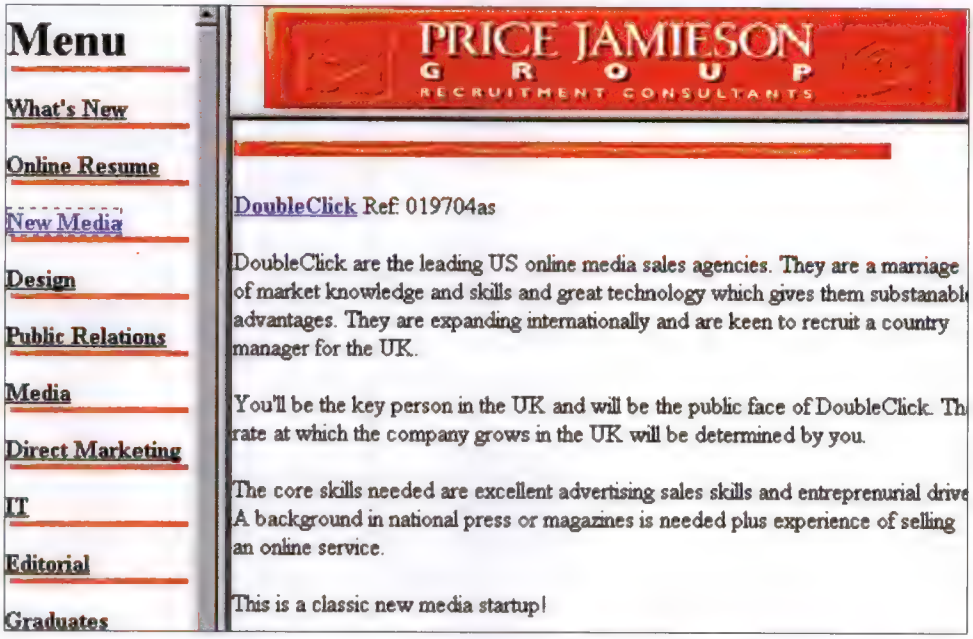
What do I need to buy?

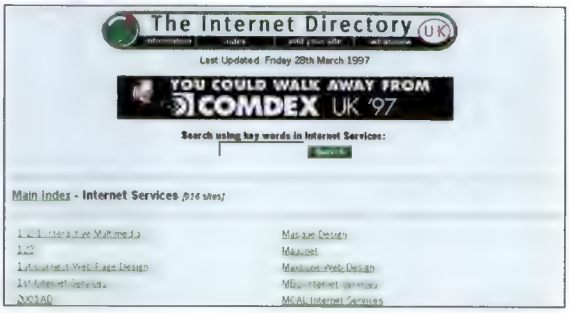
If you're running a site internally, the first thing you'll need is staff, but who do you hire, on what terms and on what salary? Is it a full-time job? If not, is there anyone in the company capable and willing to do the work? For an idea of what it costs to hire this kind of manpower, check out employment agency www.pricejam.co.uk

Equally important is the selection of hardware, software and networking technology you'll need for the job.

The first thing to consider is your physical connection to the Internet. The usual option for connecting to the world is the traditional leased line, available in capacities which range from 64Kbps through to 2Mbps and beyond.

You can either pay a flat fee for your access or pay per megabyte of traffic coming down your line. If you already





Pictured top is the Price Jamieson Web site. It's a great resource if you want to check up on how much you should be paying Web site staff.

Pictured below Price Jamieson is The Internet Directory (www.internet-directory.co.uk). This should be one of your first ports of call if you're looking for a Web design agency. Just search under Internet Services.

Back up for your site

Your Web site is only one aspect of your Web presence. Sites are often supplemented by other facilities, mainly FTP (file transfer) and email. If you want to provide files for readers to download, it's sensible to use FTP, the traditional Internet file transfer protocol. And you'll probably want to get your user feedback through email, so you can follow them up directly with the person who made the comment.

You also have to think about integrating the Web site into the rest of the business. Is your Web site intended to boost your direct sales? If so, have you bolstered your telesales desk with extra phones and people to cope with the increased demand? If you're selling a software product on the Web, have you arranged for your development department to produce a time-limited, or cut-down, version of each package for potential customers to download and try?

It's important to make sure that the Web site – and those people reading its content – are supported in a way that makes the site an integral part of the organisation rather than an afterthought.

have, say, Frame Relay or Switched Multimegabit Data Services (SMDS) capability in your existing network, a company like BT will be able to hook an Internet link into your existing facilities.

When you're choosing your link to the Internet, you have to think not only about today's requirements but also about what your future needs are going to be. Remember that adding more bandwidth to a leased line doesn't mean adding more physical connections. Moving from 64Kbps to, say, 256Kbps usually means adding software controls, not installing a bigger pipe.

Shop around on price for your line. As a rough guide, a 64Kbps link will cost you (after a £1,000-2,000 set-up charge) about £10,000 a year, including a managed router at your end. At the other end of the scale, you'll be paying a £3,000-4,000 set-up fee plus a tad more than £40,000 for the annual rental of a 2Mbps link.

Launch platform

Once the connection is sorted out, you then have to decide what computers and Web server software you want to use. The main choice is between Unix and Windows NT. NT is booming in popularity in the IT world at the moment – across the board, not just in Web serving. It's robust and it looks familiar to anyone who has ever used Windows.

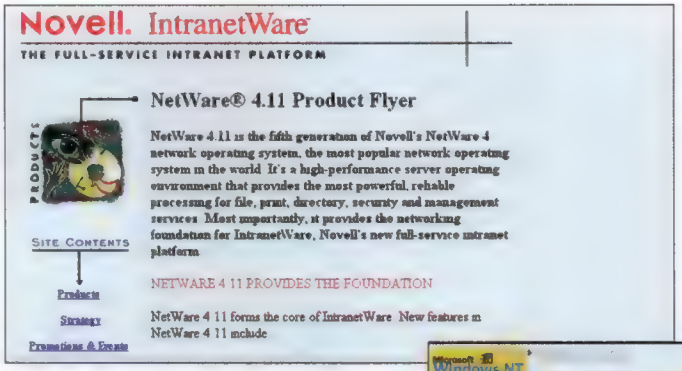
Unix is the original Web server platform; it's less friendly than NT, and is only recommended for those who have the experience or the time and inclination to learn it properly. There are several different versions of Unix; the popular ones for Web serving are Solaris, Sun's version of Unix, and Linux, a free version of Unix for PCs ,which works remarkably well.

Moving onto the hardware. Macintoshes and Linux-based PCs are very popular as low-end servers. NT is more resource hungry and so won't run on some grotty old 386 you found in the cupboard. Nevertheless, if you're upgrading a fairly chunky machine elsewhere on your network, for example, a NetWare fileserver it would make a super NT-based Web server.

The server software is the final choice. Under NT, you can run Microsoft's Internet Information Server (IIS) for free. Under Unix, there are various free servers, the most popular is Apache. There are also commercial applications. Netscape produces a variety of server software, for both NT and Unix (the NT version is cheaper). Apache has a commercial incarnation, called StrongHold. There's also Purveyor (NT) and a fleet of less commonly used software, including Novell's offering for NetWare servers.

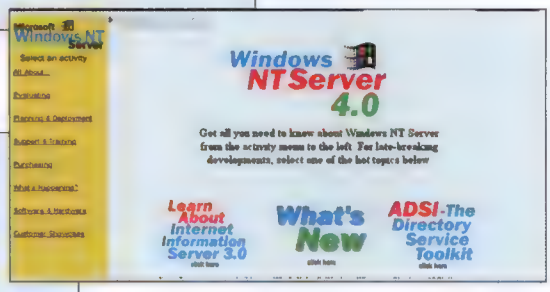
Incidentally, you should also think about any other software you intend to use on the system. For example, if you plan to run a back-end database, it will affect (and be affected by) your choice of hardware and server software.

As with any installation, don't go off at half-cock, plan ahead and you won't fall into any deep holes later on.



The choices for your Web server software are many. For more information on the latest version of NetWare check out Novell's site at www.novell.com (pictured left).

Take a look at what Microsoft has to offer at www.microsoft.com/ntserver. And don't forget Sun's version of Unix at www.sun.com



Design matters

Regardless of platform, the design of the site is what your user will see. Would you put out a product brochure entirely put together by the sales staff, with no design input? If the answer is yes, then skip to the next section. Otherwise read on.

A clean, clear, easy-to-navigate site is always going to beat a site with the same set of features but which is badly designed. Design isn't only aesthetics, it covers the interface, the way information is presented to the reader, the set of features provided, and so on.

Design also involves considerations about whether to use frames (and hence alienate users without them), complex graphics and/or video and so on. You have to find the most attractive way of presenting information, while making sure it's viewable by the largest number of visitors, regardless of browser.

Keep it up-to-date

All too often, the money spent on equipment, network links and staff to get a Web site up and running is wasted because nobody bothers to make sure the information on the site is kept up-to-date. If you're presenting your product range or price list on the Web, it's less than useless to the user to find the site was updated six months ago and the prices, or products, have been superseded. You have to make sure you budget for staff and equipment to carry out the updates and maintain your site.

Getting your business on the Web isn't too difficult. The technology isn't hard, and if you don't understand it you can always pay someone who does. However, you do need the right people, the right suppliers and a set of hardware and software which has a sensible upgrade path.

David Cartwright is technical editor of Network Week. Contact him at dsc@networkweek.com

Coming up...

Over the next few months we'll be covering the topics we've mentioned above in more detail, taking you step-by-step through the process of setting up a good, effective Web presence for your business. In the following months we'll be covering...

Connections and Internet Access Providers
Find out which connection to choose – dial-up, ISDN or leased line – and which Internet access provider offers the best value for money link.

How to host the site yourself
A guide to the hardware, software and manpower you need to host and manage your own Web site.

Getting value for money from your Web design company
How to brief your Web design agency. How much they're going to charge you and how you can make sure they work to the budget and hit the deadlines.

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ISDN plus dial-up	5	£25	£25	SAVE £50
networked ISDN	10	£95	£75	SAVE £75
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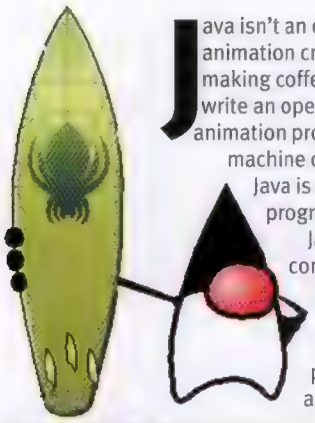
Get to grips with Java

The future of Java is all wrapped with the future of the Internet. The programming language has made its creators, Sun Microsystems, a fortune and in doing so has managed to polarise the entire software industry. In the first of our new Java series, Simon Brock looks at why Java is so vital for all Internet users, and explains how you can get to grips with Java development.



Java isn't an operating system, an animation creator or a way of making coffee – although you can write an operating system, an animation program and a coffee machine controller in Java. No, Java is a conventional programming language. Java may be conventional in programming language terms but it does encourage programmers to work in a slightly different way, in an object-oriented way. An object oriented program has identifiable entities called, predictably enough, objects. Objects can contain data or could also include methods which say how the data they contain could be used. A programmer tells the computer how objects should be created by writing classes.

Object-oriented programming should be more natural than structured programming. For example, if you think about a remote control, you visualise a picture of a small box with buttons, which transmits a signal when a button is pressed.

In Java (or any other object-oriented programming language) you can create a class of 'remote controls'. The class will include operations that correspond to the actions of the remote control. Certain operations are common to all remote controls (such as the on/off button) but some operations are specific to certain remote controls. For example, my video remote control allows me to set start times. Therefore, in Java, we could define a class of VCR remote controls which inherits all the information from the original remote control class but then adds the extra operations needed to control a VCR.

When one class inherits information from another class, it can over-ride some of the original class' behaviour. For example, a VCR remote control might link its timer control button to the power button in some way.

Related classes

The idea of building related classes is called inheritance and is one of the most important concepts in object-oriented programming. Any developer who's written a large program is bound to have used some ready-created code from a library. If you write a program for Windows 95, say, you use the Microsoft libraries to help you create windows and handle mouse events. If you want a standard window with the usual frame then you call the routines to create this from your code library and then work out how to write to the content part of the window.

With inheritance in Java, you'd write your own window class based on the standard window class. All the standard features of the window come from the library, all you have to write is the extra code to put your messages in the windows. Using Java, the developer doesn't have to re-invent programs all the time, they can simply implement a class by saying 'What I want is one of those with knobs on.'

Why all the fuss about Java?

Java is based on a set of ideas which are 30 years old and it's not the first object-oriented programming language – others include C++ and SmallTalk – so why all the fuss now?

Most programming languages are translated to machine code – so a C program is translated to a series of Pentium instructions for a Windows machine and a series of PowerPC

Key Java sites

www.javasoft.com
This site is run by Sun and it's the best place to find out about the language. Here you'll find documentation for the language, the full text of a book that shows you how to write Java and the Java Development Kit.

www.gamelan.com
A directory site which contains links to a number of Java resources. You'll find a number of applets stored here in categories including arts, entertainment and education. It's a good place to advertise your applets and to look at what other folks are developing.

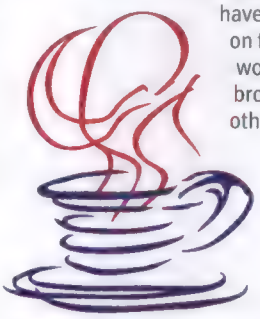
www.mini.co.uk
If you want to see an example of a fun Java applet, check out how to design your own Java Mini.

www.999.com/golf/indexe.html
An impressive 3D golf game created in Java.

instructions for a Macintosh. This means if you produce a program on one platform it won't run on another platform.

Java, on the other hand, is translated to an idealised machine (called the Java Virtual Machine). Each machine that runs Java has its own implementation of the Java Virtual Machine which interprets individual Java instructions. This means that the program is platform independent. Once a Java program is written, it should run on any machine running a Java Virtual Machine – whether it's a Windows PC, a Macintosh, a Unix workstation or a Network Computer.

It's not all rosy though, you pay a speed penalty for this machine independence. If you compile a C program for a particular machine, then you can take advantage of the way a specific processor works. It's obviously slower to interpret Java Virtual Machine instructions than it is to run a 'real' program. This problem has been partially addressed by Just In Time (JIT) compilers. These translate the Java Virtual Machine instructions to real machine instructions before running the Java application. This means that some of the performance problems associated with Java are eliminated. Most JIT compiler-based implementations are five to 10 times faster than normal Java Virtual Machines.



What has this got to do with the Internet?

While platform independence seems like a good idea, there's more to the Java Virtual Machine than meets the eye. It has built-in security features which allow you to restrict what the Java Virtual Machine is allowed to do or, rather, what Java programs are allowed to do on your machine. Therefore, if you download a Java program from the Internet, you have some assurances about what it can do.

There are two main types of Java programs – applications and applets. Applications are programs which have full capabilities and generally have no security restrictions on them. An example of this would be the Hot Java Web browser. An applet, on the other hand, is a program whose capabilities are inhibited by a set of restrictions. For example, a Java applet can't read and write files on a disk or make connections to arbitrary machines on the Internet.

This means if you download an applet from the Internet to your machine, you know it can't do any significant harm to your machine or trick you into divulging a password. The Java Virtual Machine should also guarantee that if the applet crashes – which is quite hard to do in Java – then it won't bring the whole machine down with it. However, on most implementations, it's still possible for an applet to use a lot of memory or processor time.

Java applets are substantially safer to download than anything involving real machine code. For example, a plug-in for Netscape is machine code and therefore has complete access to your machine. Similarly, ActiveX controls are run as machine code and so could cause damage, even if they come from a trusted source.

So, Web site developers can add extra features to their Web pages by using Java – but why use Java rather than a specialised plug-in or another

Java – a potted history

James Gosling, one of the key developers of the Java language.

Although Java has spawned a multi-million pound industry, it began as a simple programming language for consumer electronic devices, which ranged from toasters to personal computers.

Originally known as Oak, the Java language was developed in 1990 by James Gosling and a small group of programmers at Sun Microsystems' Californian offices.

The key to Java was the fact that it could run on any kind of processor. However, this architecture-neutral language really came into its own with the emergence of the Web, as it meant that Java applications could be written once and then run anywhere, on any type of machine with a Web connection.

Java – a product without a market?

Java has become synonymous with the Web but for many years the Sun team had little idea of how Java was going to be used. The Green team, as Gosling and his fellow Java developers were known, was initially spun off from the main Sun building under the auspices of a new, and highly secretive, Sun division called FirstPerson. The FirstPerson initiative initially targeted interactive television – at the time this was a non-existent market that Sun thought would emerge strongly from 1993 onwards. After failing to find a set-top box manufacturer willing to try out Oak, the Green team was in danger of breaking up.

Understandably, after pouring millions of dollars of investment into Java, Sun wanted to realise its potential. And at just this time the Internet was really starting to take off in a big way. At the same time as the Web made it big, the now rechristened, Java code seemed to have found its natural channel to market.

Sun quickly released HotJava, the first browser for Java applets. Netscape subsequently included Java features in its Navigator browser, and this precipitated a wave of interest in the language. Most major software companies bought licenses to use the language, even Microsoft. Sun is clearly in the driving seat as Java applications and interfaces appear on an ever wider variety of devices. Java is also becoming the focal point of a split within the industry. With Oracle, Netscape, Novell and a host of other companies pushing Java, it's now a real threat to the power of Microsoft and the conventional PC.

Far left: Find out how to build your own Java mini. Above: GameLan is a seriously useful directory of Java resources.

At Sun's recent European Analyst meeting, Scott McNealy Sun's CEO, highlighted the value of Java to Sun, citing major orders from BT as evidence of its appeal. With hardware products such as Sun SPARC stations and servers as part of its product range, Sun predicts over £3 billion pounds worth of revenues this year as well as a 43 per cent growth in Java related products.

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programming environment, like ShockWave? One of the big problems of targeting a plug-in is that you have no guarantees that the machine downloading your Web page will have that plug-in. However, most users now have Java on their machines as all the current browsers support it on most platforms (except Windows 3.1).

It's worth bearing in mind that most Shockwave movies are big, compared to the equivalent Java applets. The cost of developing Shockwave is also comparatively high. The software to develop Shockwave costs about £1,000 as opposed to about £100 for a Java system. But the main advantage of Java over Shockwave is its mass market appeal. For those who want it, Java offers the user more control. For example, a Java applet can be downloaded and displayed as an interface to show the user what to do. While the user is looking at that, the applet can download everything else it needs, even updating the display while the user is looking at it. For example, you can display some simple buttons and then download the real ones later. This extra control does have a price – you have to know what you're doing.

So what can't Java do? At the moment, some of the Java libraries are tricky to get to grips with, and they only have limited support for multimedia applications and no support for manipulating sound or playing video. However, even this is set to change soon.

Java will change the way we think about creating Web sites. No longer will sites with static HTML pages be enough. – Java can handle active content and because of the style of the language, it lets us do things in a very flexible way.

However, Java will also change the way we think about all applications. What Java gives us is a machine-independent way of thinking about applications, and it's one of the best designed programming languages to implement those applications. This is exactly why many leading companies are banking on Java, and also why Microsoft is busy trying to adopt its own spin on Java into many of its products and development tools.

One thing is for sure: Java will change the existing order of Internet applications, and so there's never been a better time to learn it (trust us, Java experts will make a lot of money). Turn over the page for the definitive guide to the jargon behind Java technology.

Simon Brock is a Java developer and technical director of Wide Area Communications, an Internet development company. Email him at shb@widearea.co.uk

Internet Magazine's Guide to Java

In the next few months, we'll be covering a variety of Java programming issues, keeping you up-to-date on Java's effects on the Internet and showing you how to master the language.

Future features

In our June edition, we'll show you how to put a Java compiler on to your machine and develop a useful applet. Following this, we'll explain the basic structure of Java applets and how you can develop Java applets capable of handling numerous commands simultaneously.

In subsequent issues we'll be looking at Java-based graphics and showing you how to make the most of Java's graphic handling.

If you want to put a user interface on your applet, then all you need do is follow our series regularly. As well as providing development code, we'll also be giving you hints on interface design.

For the more experienced Java developer, there'll be advice on creating multimedia Java applets using sound and graphics.

Each article will be backed up with full source code, which will be downloadable from the *Internet Magazine* Web site at www.emap.com/internet/java/

Upcoming Java Features

June Embedding and compiling your own Java applet.
July How to develop a multi-tasking Java applet.
August Manipulating graphics with a Java applet.
September How to write your own Java interface.

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The definitive guide to Sun's Java technology

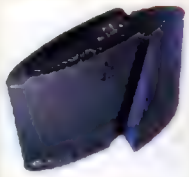
Although the Green team at Sun worked for years to develop the Java language, the speed of its growth has meant that whole new divisions have sprung up at Sun to handle Java-enabled technology. Here we provide the essential lexicon of Sun divisions and products.

Sun Microsystems Computer Company
The division of Sun that sells hardware products, including the Netra Internet servers and the Solaris UNIX operating system.

JavaSoft
This is the division of Sun that was born of the original Green Team and the FirstPerson spin-off.

SunSoft
Sun's own developer and reseller of Java software and desktop computing systems.

SunService
The support and educational service behind Sun's Java deployment.



HotJava
Sun's browser which was entirely written in Java. HotJava was originally built by Green team member Patrick Naughton. The browser was quickly superseded by Netscape when it built Java into version 2.0 of its Navigator browser. The future development of HotJava remains unclear.

JavaBeans
To continue the coffee analogy, Sun released its JavaBeans architecture which allows developers to create components that can work together. JavaBeans allows Java code written on one platform to work with a Java application on another platform.

JavaOS
A small and efficient operating system, the JavaOS is designed to be used on microprocessors without a host operating system. The JavaOS is already supplied to over 20 companies, including Toshiba and IBM.

Sun's ultimate aim is to make the Java operating system ubiquitous in non-PC environments.

JavaServer
The JavaServer suite consists of APIs, toolkits and the Java Server itself.

JavaChip
Sun's microprocessor, which is designed specifically to run Java applications.

Java Workshop
The development environment for the creation of Internet applications and Web pages using Java.

JavaStation Network Computers
Platform-independent machines that are run from a central server.

JavaScript
A scaled-down Java code that can be embedded straight into your HTML pages.

JavaOne
The developers organisation behind the Java revolution.

JDK
The Java Developers Kit is downloadable from http://java.sun.com/products/jdk/1.1). There's been a quarter of a million copies of the product downloaded since February.

The Java Fund
This isn't a Sun initiative, but is the brainchild of a batch of venture capitalists that are looking to invest money in small Java start-ups. Up to now the Fund has collected more than $100 million dollars from backers, including Sun, Netscape, IBM and Oracle.

The Competition
Despite its attempt to offer hardware and software products across the whole Java range, Sun has been faced with a variety of competition from rival companies and from rival standards. Listed below are some of the key competitors...

Marimba
Founded by Java developers Arther Van Hoff, Sami Shaio and Kim Polese, Marimba's core product is Castanet, a Java-based Push technology.

ActiveX
As well as licensing Java, Microsoft has pushed its ActiveX technology, an Internet-enabled form of OLE, or object linking and embedding. Although ActiveX isn't a direct Java competitor, its proliferation on the Web could hinder Java's growth.

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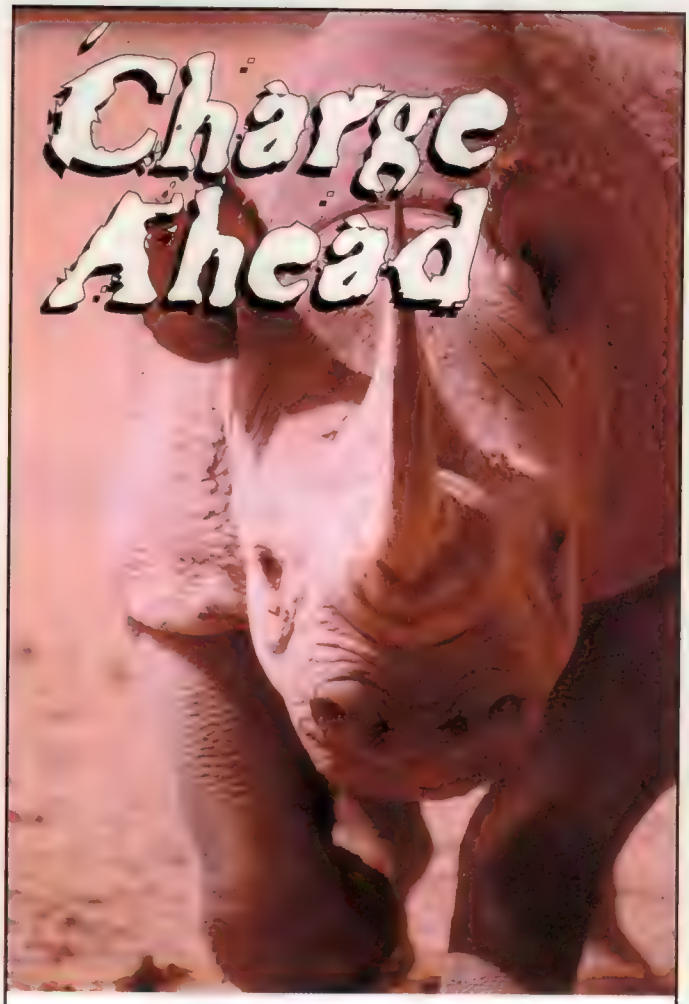

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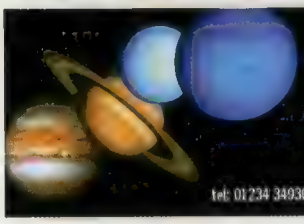

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provider la

Internet Magazine carries out the most comprehensive set of performance tests on Internet access providers in the UK. Not only do we test how easy it is to get a connection, but also the speed of downloads once you're online.

New this month...

This month we tested 55 Internet access providers (IAPs) – the highest figure ever. The new boys to the Labs test seemed to hover comfortably around the middle of our results table.

A welcome return

Old favourites UUNet Pipex and Easynet both made a welcome return to the tests and came in 30th and 24th positions respectively. Meanwhile, previous high performers Demon, CYBERphile Internet, Technocom and NetDirect Internet maintained their recent strong showings and boasted exceptional availability results.

Ease of connection

The availability results remained fairly strong throughout the tests. Sixteen providers achieved 100 per cent availability figures. Nevertheless, these results don't compare favourably with last month's figures, when over half of the IAPs recorded no downtime. However, the average availability figure was an impressive 94.02 per cent, up from last month's 93.74 per cent.

Speed of access

The average Web access speed time was considerably better this month, due to some minor coding improvements we made to the test software. The average Web speed download time for a Web page was 17.87 seconds – this was nearly 50 per cent faster than last month.

Number one again

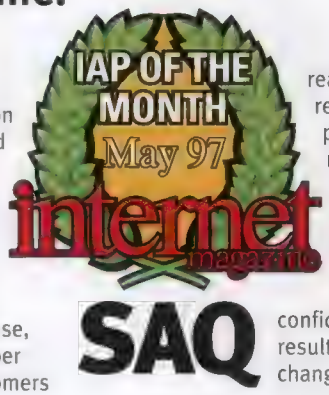
SAQ Network Services held on to the top spot by performing well in both our speed and availability tests. Svein Eriksen, managing director of SAQ, has seen his subscriber base grow since the company's success in last month's tests, but he's cagey about revealing any figures publicly.

The March tests indicate that SAQ had a spat of downtime, which Eriksen explains: "We were offline for a couple of hours on a Friday in March, but we only had a few users logging on at that time so it shouldn't have affected the tests results too much."

SAQ Network Services currently manages its own backbone. Until recently, "most subscribers went through the BT network, but since it went down, most people will be re-routed through Cable & Wireless and UUNet, our other backbone providers. From now on *Internet Magazine* will be testing the service on the Cable & Wireless and UUNet backbones," Erickson says.

Bouquets

Frontier Internet Services kept up its strong showing and rose five places to the number two slot. One of the main reasons for this improvement was a change of POP. The company has moved its POP to Telehouse in London's Docklands. Mike Elliott, sales manager, at Frontier Internet Services says there's been a gradual migration away from its old POP, which it plans to keep only for back-up purposes. "The tests are now conducted through Telehouse, where 60 to 70 per cent of our customers are logging in.



"The racks in Telehouse have more modems and we've installed a second 1Mb leased line. We've also recently changed our backbone provider to Xara Networks. Since then, the downtime has been minimal," says Elliott. He feels that IAPs must constantly strive for the best possible backbone. "Pipex offered us connections with 99.5 per cent reliability, which looks fine on the surface but is still around 20 hours downtime a year," he says.

Backbone upgrades

Moving back up to the number three slot, Global Internet has recovered from the BTnet outages which affected its performance last month. "We learned our lesson – you simply can't rely on BTnet and have accordingly increased the bandwidth and added other bandwidth sources," says Peter Venmore, a Director at Global Internet.

Brickbats

AngliaNet may have spotted the reason behind its recent poor performance results. We'll now be dialling into their additional backbone provider and the company is confident next month's results will reflect the change.

Avel PiP witnessed contrasting fortunes, with some of the best download times but a poor availability figure. "We experienced two separate days where there were major kilostream faults," says manager Gary Shainberg. "Avel PiP is investing in improving availability and accessibility, we're aiming to reduce the user to modem from 20:1 to 15:1 and better," he adds.

Scott Thompson, General Manager at Belfast-based Direct Net @ccess, was disappointed, but not overly surprised, by its results. "We've been running two news servers simultaneously over the last month so there's been some congestion while we tested the new one."

Net Matters informed us of problems with modem cards which may have affected its results for last month.

If you work for a provider that's would like to be included in our Labs tests please send details to:
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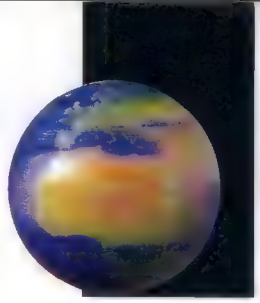
b tests



This month's best IAPs, as tested in Internet Magazine's labs

This month	Last month	Provider	Telephone	Support times	Availability (higher is better)	Average Web speed access (in seconds)	Fastest Web speed access (in seconds)	Slowest Web speed access (in seconds)
1	1	SAQ Network Services	(0800) 801 514	24 hours a day	98.08	12.63	3.67	44
2	7	Frontier Internet Services	(0171) 242 3383	9am-7pm Mon-Fri / Sat 12pm-6pm	98.08	12.92	3.67	39
3	13	Global Internet	(0181) 957 1008	Mon-Fri 9am - 9pm Sat & Sun 10am - 6pm	100	13.44	3.33	49.33
4	10	Demon	(0181) 371 1234	24 hours a day	98.04	13.25	3.33	39
5	18	Enterprise	(01624) 677 666	9am-6pm Mon-Fri	96.23	13.20	3.67	49
6	22	Dolphin Internet	(0181) 932 5000	24 hour pager service	100	13.86	4	38.33
7	N/A	Netcom	(01344) 395 600	24 hours a day	100	14.38	3.67	45.33
8	41	The Web Factory (Head office)	(01782) 858 585	9am-5pm Mon-Fri	92.11	13.49	3.67	36.67
9	2	CYBERphile Internet	(01543) 454 840	8.30am-6.30pm Mon-Fri	98.04	14.65	4	49.67
10	5	Technocom	(01753) 714 200	9am-5.30pm Mon-Fri	98.04	15.05	3.67	80
11	3	NetDirect Internet	(0171) 732 3000	9am-7pm Mon-Fri/ 9am-5pm Sat	98.04	15.42	4	60
12	23	U-Net	(01925) 484 444	9-9 Mon-Fri/email at w/e	100	15.78	3.67	61.33
13	16	Nildram	(01442) 891 331	9am-11pm every day	89.47	14.17	3.33	60.33
14	15	Pavilion	(01273) 607 072	9am-5.30pm Mon-Fri	92.73	14.82	3.67	120.67
15	9	Primex	(07000) 774 639	9am-6pm Mon-Fri	92.59	14.92	3.67	66.67
16	20	Maidenet	(01628) 825 757	9am-5pm Mon-Fri	100	16.30	4	50.67
17	35	I-Way	(0118) 958 0058	8.00am-6.30pm Mon-Fri	96.15	15.70	4	60
18	26	CompuServe	(0800) 289 378	9am-9pm every day	98.11	16.03	4	64.33
19	6	Intonet	(01932) 828 333	8am-8pm Mon-Sat	80	13.11	3.33	29.33
20	N/A	Net Matters	(01502) 585 866	7.30am-8pm Mon-Fri/10am-8pm w/e	92.31	15.14	4	50.67
21	31	Avel PiP	(01752) 600 101	9am-6pm Mon-Fri	70.83	11.80	3.67	35.33
22	19	Netkonect	(0171) 345 7777	9am-6pm Mon-Fri	91.07	15.26	3.67	63
23	24	Fast-Net Developments	(0161) 291 8330	24 hours a day	100	16.91	4.33	67.67
24	N/A	Easynet	(0171) 681 4444	9am-5pm Mon-Fri/10am-5pm w/e	88.68	15.39	3.33	51.67
25	N/A	IFB/Wintermute	(01224) 333 300	9am-6pm Mon-Fri	86.05	15.01	3.33	41.67
26	21	Discovery	(01203) 364 400	8.30am-5pm Mon-Fri	96	17.06	4.33	78.67
27	N/A	Zoo Internet	(0345) 326 326	9am-9pm every day	100	17.85	3.67	164
28	N/A	Entanet	(0500) 368 2638	9am-9pm every day	91.18	16.30	3.67	54
29	N/A	EDI	(01539) 731 000	Mon-Sat 9am-5.30pm	96	17.24	4	57
30	N/A	UUNet Pipex	(0500) 474 739	9am-8pm Mon-Fri/Sat 10am-6pm	94.34	17.16	3.67	60

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This month's best IAPs (continued)

This month	Last month	Provider	Telephone	Support times	Availability (higher is better)	Average Web speed access (in seconds)	Fastest Web speed access (in seconds)	Slowest Web speed access (in seconds)
31	N/A	MetroNet	(0181) 426 4446	9am-7pm 7 days a week	89.80	16.53	4	57.33
32	29	Zen Internet	(01706) 713 714	9am-8pm Mon-Fri/10am-5pm w/e	100	18.55	4.33	110.33
33	4	Direct Net @ccess	(01232) 330 311	9am-6pm Mon-Fri/9.30am-5.30pm Sat	96.30	18.31	4.67	68.67
34	14	BT Internet	(0800) 800 001	24 hours a day	92.73	17.74	4	134.67
35	8	Cable Internet	(0500) 541 542	9am-9pm every day	100	17.92	3.67	133
36	43	Prestel Online	(0990) 223 300	24 hours a day	100	20.35	4	190.33
37	37	Bogomip	(0800) 137 536	10am-8pm Mon-Fri/10am-5pm w/e	81.67	18.58	4.33	133.33
38	38	Onyx	(0345) 715 715	8.30am-6pm Mon-Fri	100	20.68	4.67	102.33
39	28	Zynet	(01392) 209 500	9am-6pm Mon-Sat	100	21.88	5	86
40	17	REDNET	(01494) 511 640	9am-5.30pm Mon-Fri	90.91	20.15	3.33	154.33
41	12	Poptel	(0171) 923 9465	9.30am-6pm Mon-Fri	90.74	20.18	4.67	97.67
42	41	The Web Factory (Leics)	(0116) 223 0070	9am-5pm Mon-Fri	98	22.02	8.67	108.67
43	32	Legend Internet	(01274) 743 500	8am-8pm Mon-Sat	75.36	16.98	4.33	71.33
44	39	Baynet	(01222) 256 401	8am-6pm Mon-Fri/9am-5.30pm Sat	77.27	17.50	4.00	100.67
45	25	Pinnacle	(01293) 613 686	9am-7pm Mon-Fri	100	23.69	4.67	102
46	44	Oxford CommUnity Internet	(01865) 856 000	9am-6pm Mon-Fri	98	24.59	4.67	134
47	33	Hiway	(01635) 567 200	8.30am-6pm Mon-Fri	86.21	21.67	5	107.67
48	34	Internet Central	(01270) 611 000	9am-6pm Mon-Sat	100	25.46	4.33	198
49	42	CIX	(0845) 355 5050	9am-midnight Mon-Fri/10am-6pm Sat	100	26.24	4	126.33
50	11	AAP Internet	(0181) 427 1166	10am-8pm Mon-Fri 2pm-6pm w/e	100	26.32	5	130.33
51	40	VossNet	(01753) 737 800	9am-7pm Mon-Fri/Sat 10am-3pm	94.23	25.05	3	236.33
52	27	Abel Internet	(0131) 445 5555	9am-11pm every day	73.85	20.15	5	84
53	36	Sonnet Internet	(0171) 891 2000	9am-9pm Mon-Fri/9am-6pm Sat	88.89	24.50	4.67	124.67
54	30	Manx Computer Bureau	(01624) 623 841	9am-5.30pm Mon-Fri	70	20.14	4.33	91.33
55	45	AngliaNet	(01473) 211 922	8am-9pm Mon-Sat/11am-7pm Sun	94.55	28.51	4.33	103.33

How the performance tests work

The Windows 95 tests have been going for more than six months and an ever-increasing number of IAPs are now being performance tested. The tests allow us to assess how easy it is to establish a connection (the availability figure) and we also test the performance of the service once the connection has been established (the average Web speed).

The fastest and slowest speed figures reveal the fastest and slowest accesses to our test Web sites. Our modems log onto each access provider many times over the testing period (up to 26 March) and download pages from a selection of sites.

In this month's tests, we've varied the sites we've been hitting. The three sites we targeted were the busy shareware site, TUCOWS at **www.tucows.com**, a static page from the popular news service, CNN at **www.cnn.com**, and the Linx (London Internet Exchange) Web page at **www.linx.net**.

In the future, we hope to target various Internet exchanges around the world to evaluate the performance of access provider's international bandwidth.

The tests themselves have now been made more sturdy and the (rare) crashes now occurring are down to Windows 95, and the way dial-up networking is handled by the operating system. We're planning to set up multiple machines to handle the increased number of access providers we're testing, to ensure that Windows' various stacks don't have to work too hard, and to increase the number of times we connect to each access provider over the course of a month.

To rank the IAPs, we've calculated the geometric mean of availability and average Web performance. Each of these results is made relative to the best performance available; this month those are 100 per cent for availability and 12.63 seconds for average Web performance. Each of these results is considered equally important, so a provider with a slightly below par availability result, but a very fast average Web download speed (for example, Nildram and Pavilion) will come out higher than a provider with 100 per cent availability but a slower average speed (for example, CIX and AAP Internet). The tests for this month were conducted throughout the month of March.

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which prov

The most up-to-date information is vital when you're choosing from hundreds of Internet access providers. You'll find no better guide than our Which Provider section over the following five pages.

The number of UK Internet access providers (IAPs) now runs to 230. But that hasn't prevented AOL from achieving a 50 per cent rise in its UK membership. Its latest figure for membership is 150,000. This means AOL sneaks ahead of MSN in the UK access provider league table – only CompuServe has more members. However, it's worth pointing out that lots of free trial accounts have been bandied about by AOL recently.

LineOne hits the lists

The biggest name to launch this month has to be LineOne, the News International /BT service. LineOne provides unlimited access to the Internet, as well as access to proprietary content, for £14.95 a month. If you only want access to the LineOne content you can get away with paying £6.95 a month.

Price cuts

BT now has a £4.70 per month Internet Access deal called Plan 180. The downside is you can only access the Net for a maximum of three hours a month. It might not sound much but BT reckons this gives you enough time to send 30 email messages a week and still browse a few Web sites.

New national providers

Mercia Internet, Karoo, Mainstream Technology, ProWeb, Datanet, Hi-Net, CPD Online and MetroNet (an offshoot of the successful cybercafé, Get Surfed!) all launched national services this month. There's little difference in the pricing of the services, although Hi-Net is offering a 28.8Kbps modem and a year's dial-up service for a total price of £150.

New local providers

RJT Internet Services launch this month and offers coverage in East Anglia for £7.99 a month. In the North West, TriNET IMB has launched a local service called Lakesnet. Southampton-based CintraNet is offering locals an £11.75 monthly dial-up account. Meanwhile, Web Communications provides accounts for £12.50 a month to the London area.

Mergers and upgrades

Dart Net and Bournemouth Internet are merging their network businesses. "Our customers will benefit from increased bandwidth, more servers and better technical support," says Dart Net's Managing Director, Peter Scoggins.

UUNet Pipex is now trialling its 56.6Kbps service to selected Pipex Dial customers. If you're a subscriber and want to join the programme, email x2@uunet.pipex.com. The full roll out of the x2 service should take place in late April/early May, US Robotics permitting.

Nildram has installed extra transatlantic bandwidth and has ordered more phone lines from backbone provider Energis. The company is phasing out its London and Tring numbers and hopes that the new lines, installed on a local call 0845 number, will cope with the extra demand.

Cerbernet is introducing a permanent connection to the Internet service for a flat annual fee. There are no call charges and prices start at £1,600 (excl. VAT).

All change...

IBM Global Network has dramatically altered its name to IBM Global Services. Changes have also been made to its email and Web addresses, and the price of a dial-up account has fallen to £15 a month. Dungeon Network Systems has changed its name to FlexNet. Finally, personnel changes include UUNet Pipex where the new UK Managing Director is Pat Chapman-Pincher, formerly of MFS Int'l.

If you have any IAP news please email us at providers@internet.emap.com
If you want to find out which IAPs have the biggest market share, visit the Internet Marketing Hotlist at www.emap.com/internet/hot/

How to choose an IAP

Until some enterprising telecommunications company follows the US route and offers free local calls, one of the most important considerations when choosing an access provider will be your phone bill. Make sure you go for an access provider which offers local call access to the Internet.

How the IAPs charge

Most providers offer unlimited access for a flat monthly fee, but others, such as AOL and CompuServe, charge by the hour. This can be a cheaper option if you're not expecting to be online much during a month, but can soon add up otherwise. Before you subscribe make sure you ask about start-up fees, some IAPs have been known to make an upfront charge of more than £70 to set an account up for you.

Technical support and software bundles

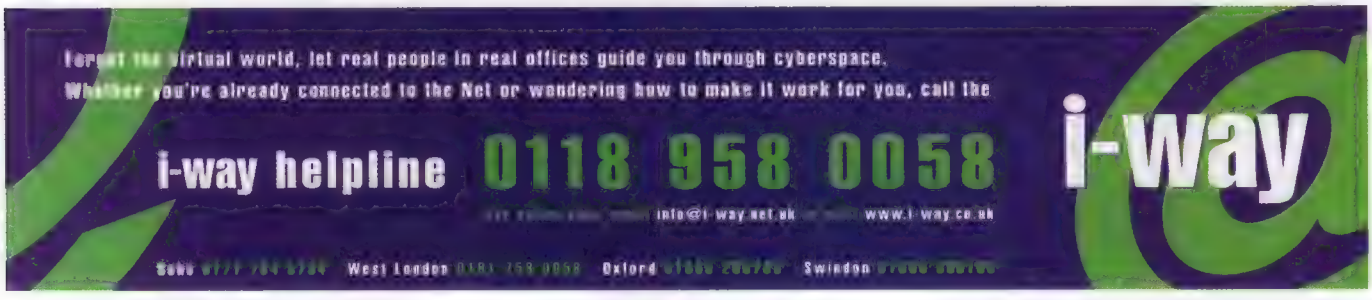
Another important consideration, is technical support. Before signing up with an IAP, call its support number at different times of the day to see how easy it is to get through. Although some companies may advertise a round-the-clock service, it's not much use if there's only one person answering the phone.

Ask about the range of software supplied. Do you get a full compliment of Internet applications, including email and FTP clients as well as the browser software, and are they the latest versions? Find out if these products are simply shareware, for which you're expected to cough up money after the trial period expires.

Backbone providers

IAPs buy access to the Internet in the same way you do. The only difference is that they pay for big direct connections. Your IAP's backbone determines the quality of your connection and the ability of your IAP to expand its bandwidth, so check it out before signing up.

And once you're online, let us know! Test your account by sending a message to: newusers@computing.emap.co.uk. We'll send a friendly reply by return so you know that your account is running as it should.



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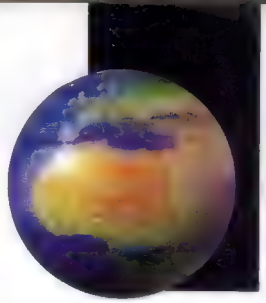

The most comprehensive listing of UK access providers available

Name	Telephone	Email	Web page	Cost (pm)	Backbone
Full UK coverage					
AAP Internet	(0181) 427 1166	sales@aapi.co.uk	www.aapi.co.uk	£8.51	Netkonect
Abel Internet	(0131) 445 5555	info@abel.net.uk	www.abel.net.uk	£7.50	BTnet
ACE	(01670) 528 204	info@ace.co.uk	www.ace.co.uk	£10	Planet
Airtime Internet Resources	(01254) 676 921	sales@airtime.co.uk	www.airtime.co.uk	£13	Pipex
Aladdin	(01489) 782 221	info@aladdin.co.uk	www.aladdin.co.uk.	LLO	Xara
Almac	(01324) 666 336	info@almac.net	www.almac.net	from £5	BTnet
AOL	(0800) 279 1234	queryuk@aol.com	www.uk.aol.com	from £5.95	AOL
Astra Internet	(0800) 018 2001	sales@astra.co.uk	www.astra.co.uk	£11	Xara
AT&T	(0171) 345 4000	info@uk.pi.net	www.uk.pi.net	£7.99	BTnet
Atlas	(0171) 312 0400	info@atlas.co.uk	www.atlas.co.uk	£12	PSInet
Avel PiP	(01752) 600 101	info@avel.co.uk	www.avel.com	£12	Pipex/Xara
Aviators Network	(01727) 868 468	info@avnet.co.uk	www.avnet.co.uk	£10	PSInet
Baynet	(01222) 256 401	enq@baynet.co.uk	www.baynet.co.uk	£10	Netkonect
Beacon Internet Services	(01749) 831 056	sales@thebeacon.co.uk	www.n-e-t.co.uk/beacon/	£12	NetOnline
BT Internet	(0800) 800 001	support@btinternet.com.	www.btinternet.com	from £4.70*	BTnet
BusinessNet	(0171) 390 9933	sales@business.net.uk	www.business.net.uk	ISDN/LLO	BusinessNet
Cable Internet	(0500) 541 542	sales@cableinet.co.uk	www.cableinet.co.uk	£10.99	Cable Internet/ISPC
Cable Online	(0800) 506 506	info@cableol.net	www.cableol.net	£14.95	Cable Online
CD-Online	(0171) 436 8677	info@cd-online.co.uk	www.cd-online.co.uk/pc	£12	Pipex
Celtic International	(01222) 488 555	sales@celtic.co.uk	www.celtic.co.uk	£15	Cymru.net
Cerbernet	(0171) 360 8000	sales@cerbernet.co.uk	www.cerbernet.co.uk	£12	Wisper
CityScape Global Media	(01223) 566 950	sales@cityscape.co.uk	www.cityscape.co.uk	£15	Demon
Cityway Internet	(0181) 930 6666	info@cityway.com	www.cityway.com	£12.75	Pipex
CIX	(0181) 296 9666	sales@cix.co.uk	www.cix.co.uk	£15	BTnet
ClaraNET	(0171) 647 1000	sales@clara.net	www.clara.com	from £3.99	Netkonect
Cocoon Internet Services	(0171) 831 7704	admin@cocoon.co.uk	www.cocoon.co.uk	£15	Pipex
Colloquium	(0141) 849 0849	sales@colloquium.co.uk	www.colloquium.co.uk	£12	Pipex
CompuServe	(0800) 289 378	70006.101@compuserve.com	www.compuserve.com	from £6.50	CompuServe
CPD Online	(0181) 446 7890	sales@cpd.co.uk	www.cyberspace.cpd.co.uk	£12	Nildram
CYBERphile Internet	(01543) 454 840	info@cyberphile.co.uk	www.cyberphile.co.uk	£9.99	Xara
Cyberscape	(01253) 724 000	glenn@cyberscape.net	www.cyberscape.net	£12	Cable Internet/ISPC
Datanet	(01752) 810 081	info@data.net.uk	www.data.net.uk	£12.50	Planet Online
Demon Internet	(0181) 371 1234	sales@demon.net	www.demon.net	£10	Demon
DIALnet	(0800) 881 881	sales@dialnet.com	www.dialnet.com	from £9	Cable Internet
Direct Connection	(0181) 297 2200	helpdesk@dircon.net	www.dircon.net	£11.49	BTnet/Pipex
Direct Net @ccess	(01232) 330 311	info@d-n-a.net	www@d-n-a.net	£7.50	Xara
Easynet	(0171) 681 4444	postbox@easynet.net	www.easynet.co.uk	from £9.90	BTnet
EDI	(01539) 731 000	info@edi.co.uk	www.edi.co.uk	£15	Planet Online
ElectricMail	(01223) 501 333	info@elmail.co.uk	www.elmail.co.uk	ISDN/LLO	PSInet
Entanet	(0500) 368 2638	info@enta.net	www.enta.net	£9	VBCnet
Enterprise	(01624) 677 666	sales@enterprise.net	www.enterprise.net	£8	BTnet
Epinet	(01242) 821 000	info@epinet.co.uk	www.epinet.co.uk	£8.25	Xara/Energis
Fast-Net Developments	(0161) 291 8330	enquiry@sales.fast-net.co.uk	www.fast-net.co.uk	£12.50	Planet
Fourth Level Developments	(0117) 985 4455	sales@flevel.co.uk	www.flevel.co.uk	£10	Technocom
Frontier Internet Services	(0171) 242 3383	info@ftech.net	www.ftech.net	£10	Xara
Gates Net	(0181) 561 5040	sean@gates.co.uk	www.gates.co.uk	£8.30	Netkonect
Global Internet	(0181) 957 4008	info@globalnet.co.uk	www.globalnet.co.uk	£7.50	BTnet/Sprint
GreenNet	(0171) 713 1941	support@gn.apc.org	www.gn.apc.org	£13.50	Pipex
Hi-Net	(0181) 532 6532	internet@higrade.com	www.hi-net.co.uk	£11.75*	Planet Online
Hiway	(01635) 567 200	info@inform.hiway.co.uk	www.hiway.co.uk	£12.75	Aladdin
IBM Global Services	(0990) 426 426	globalnetwork@uk.ibm.com	www.ibm.net	from £10	IBM
IFB - Wintermute	(01224) 333 300	info@wintermute.co.uk	www.wintermute.co.uk	£12.50	BTnet/Wisper
Impact Web Publishing	(01628) 522 099	nikki@impactwp.com	www.impactwp.com	LLO	Xara
Internet Discovery	(0181) 694 2240	sales@idiscover.co.uk	www.idiscover.co.uk	£10	Pipex/VBCnet
Internet Network Services	(0181) 296 9201	info@insnet.net	www.insnet.net	LLO	INS
Internexus Communications	(01254) 699 030	postmaster@mail.internexus.co.uk	www.internexus.co.uk	£8.06	Xara
Intonet	(01932) 828 333	hq@intonet.co.uk	www.intonet.co.uk	£8.50	BTnet

If you work for a provider that's not listed here send the details to: providers@internet.emap.com
Key: LLO – leased line only ISDN/LLO – ISDN & leased line only * – incl. VAT ** – annual price incl. VAT

which provider?

The most comprehensive listing of UK access providers available

Name	Telephone	Email	Web page	Cost (pm)	Backbone
Full UK coverage (coverage)					
iQ Internet	(01273) 327 088	sales@iql.co.uk	www.iql.co/uk	£9.99	Planet
ISPC	(01628) 395 95	barryr@ispc.net	www.ispc.net	ISDN/LLO	Cable Internet/ISPC
Karoo	(01482) 602 742	info@karoo.net	www.karoo.net	£8.33	Planet Online
LineOne	(0345) 777 464	enquiries@LineOne.net	www.LineOne.net	from £9.95	BTnet
M.I.T.E	(0181) 881 2111	sales@mite.net	www.mite.net	£10	M.I.T.E
MacLine	(0181) 401 1111	orders@macline.co.uk	www.macline.co.uk	£12	Atlas
Mainstream Technology	(0345) 626 177	sales@mainstream.u-net.com	none	£12	U-Net
Mercia Internet	(01827) 691 66	sales@mercia.net	www.mercia.net	£11.50*	Netkonect
MetroNet	(0181) 426 4446	bindu@getsurfed.co.uk	www.metronet.co.uk	£29.99 pq	INS
Mistral Internet	(01273) 747 432	info@mistral.co.uk	www.mistral.co.uk	£9.99*	BTnet
MSN	(0345) 002 000	ukweb@microsoft-contact.co.uk	www.uk.msn.com	from £4.95	Pipex
NACAMAR	(01438) 715 100	info@nacamar.net uk	www.nacamar.co.uk	LLO	NACAMAR
Net Online	(0171) 447 7447	sales@nol.co.uk	www.nol.co.uk	£15	Net Online
Net UK	(01242) 821 000	info@netuk.net	www.netuk.net	£8.25	Xara
Net Village	(0181) 255 6777	info@netvillage.co.uk	www.netvillage	£11.99	Planet Online
Netcom Internet	(01344) 395 600	info@netcomuk.co.uk	www.netcom.net.uk	£14.95*	Netcom
NetDirect Internet	(0171) 732 3000	info@ndirect.co.uk	www.ndirect.co.uk	£6.99	BTnet
NetHead	(0171) 207 1100	sales@nethead.co.uk	www.nethead.co.uk	£7.99	BTnet
Netkonect	(0171) 345 7777	info@netkonect.net	www.netkonect.net	£11.75*	Netkonect
NetMatters	(01502) 585 866	info@netmatters.co.uk	www.netmatters.co.uk	£10	VBCnet
Nettec	(0171) 460 0500	info@nettec.co.uk	www.nettec.co.uk	£12.50	Xara
Neural Advantage	(01707) 390 839	neural.advantage@wta.net	www.wta.net/uk/computer.services/	ISDN/LLO	Netkonect
Nildram	(01442) 891 331	sales@nildram.co.uk	www.nildram.co.uk	£5	Netkonect
On-Line Entertainment	(0181) 558 6114	sysop@mail.on-line.co.uk	www.on-line.co.uk	£5	Pipex
Onyx	(0345) 715 715	sales@onyxnet.co.uk	www.onyxnet.co.uk	£10	Onyx Internet
Paragon Software	(01635) 861 111	paragon@parasoft.co.uk	www.parasoft.co.uk	£11.50	Pipex
Paston Chase	(01603) 502 061	sales@paston.co.uk	www.paston.co.uk	£10	Pipex
PC User Group	(0181) 930 6699	info@win-uk.net	www.ibmpcug.co.uk	£15	Pipex
Pinnacle Internet	(01293) 613 686	info@pncl.co.uk	www.pncl.co.uk	£14.50	Pipex
Planet Online	(0113) 234 5566	info@theplanet.uk	www.theplanet.net	ISDN/LLO	Planet Online
Poptel	(0171) 923 9465	info@poptel.net	www.poptel.org.uk	£10	Xara
Premier Internet	(0181) 213 1710	info@premier.co.uk	www.premier.co.uk	£10	BTnet/Sprint
Prestel On-line	(0990) 223 300	enquiry@netsales.prestel.co.uk	www.prestel.co.uk	£8.99	Planet Online
Primex	(07000) 774 639	info@alpha.primex.co.uk	www.primex.co.uk	from £6.50	On-Net/Netkonect
ProWeb	(0500) 636 343	sales@proweb.net	www.proweb.co.uk	from £8	Cable Internet
PSI Net UK	(01223) 577 577	sales@uk.psi.com	www.uk.psi.com	£9.95	PSInet
R.B.R Group	(01285) 647 000	info@star.co.uk	www.star.co.uk	£12	BTnet/Wisper
REDNET	(01494) 511 640	info@red.net	www.rednet.co.uk	£15	Pipex/INS
Relay Business Systems	(0345) 369 999	enquiries@relay.co.uk	www.relay.co.uk	£10	BTnet
Research Machines	(01235) 826 868	sales@rmplc.co.uk	www.rmplc.co.uk	£12.50	Xara
SAQ Network Services	(0800) 801 514	sales@saqnet.co.uk	www.saqnet.co.uk	£10.64	BTnet/C&W/INS
Scotland Online	(0845) 270 0027	admin@sol.co.uk	www.scotland.net	£10	Sprint
Smartways Internet	(01604) 670 500	info@smartways.com	www.smartways.com	£15	Wisper
Sonnet Internet	(0171) 891 2000	enquire@sonnet.co.uk	www.sonnet.co.uk	£12.50	Xara
SOS Internet	(01271) 321 145	sosi@sosi.net	www.sosi.net	£15	Aspen
Star Internet	(01285) 647 022	info@star.co.uk	www.star.co.uk	ISDN/LLO	BTnet/Wisper
Technocom	(01753) 714 200	isales@technocom.co.uk	www.technocom.co.uk	£12	Technocom
The Network Group	(01703) 452 409	info@network-group.com	www.network-group.com	£15	Pipex
The Web Factory	(01782) 858 585	sales@webfactory.co.uk	www.webfactory.co.uk	from £12.50	The Web Factory
Timewarp Internet	(0161) 950 8855	sales@timewarp.co.uk	www.timewarp.co.uk	£10	ISPC
Total Connectivity Providers	(01703) 393 392	sales@tcp.co.uk	www.tcp.co.uk	from £36 pq	Pipex
U-Net	(01925) 484 444	hi@u-net.com	www.u-net.net	£12	U-Net
UK Online	(01749) 333 333	sales@ukonline.co.uk	www.ukonline.co.uk	£9.99	BTnet
UUnet Pipex	(0500) 474 739	support@dial.pipex.com	www.uunet.pipex.com	£15	Pipex
Virgin Net	(0500) 558 844	mail-hq@virgin.net	www.virgin.net	from £6	Cable Online
Webscape	(01935) 814850	webmaster@webscape.co.uk	www.webscape.co.uk	£10	Xara
Which? On-line	(0645) 830 240	ogunlarur@which.co.uk	www.which.net	£14.75	Cable Online
WinNet	(0181) 930 6699	info@win-uk.net	www.win-uk.net	£6.75	Pipex
Wirenet Amiga	(01925) 496 482	sales@wirenet.u-net.com	www.wirenet.u-net.com	£115**	U-Net
WISS	(01248) 602 405	enquiries@wiss.co.uk	www.wiss.co.uk	£11.75	Celtic Internet
Xara Networks	(01442) 351 100	sales@xara.net	www.xara.net	LLO	Xara
Zetnet Services	(01595) 696 667	info@zetnet.co.uk	www.zetnet.co.uk	£7.50*	BTnet/ Wisper
Zoo	(0345) 326 326	support@zoo.co.uk	www.zoo.co.uk	£6.99	Energis
Zynet	(01392) 209 500	sales@zynet.net	www.zynet.co.uk	£10	Xara

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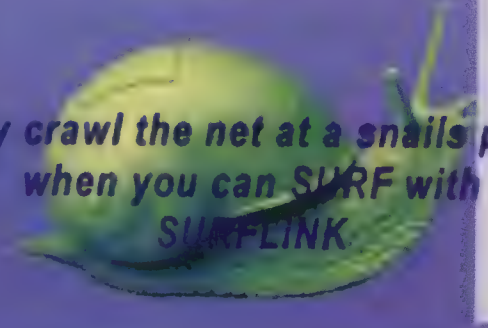

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which provider?

The most comprehensive listing of UK access providers available

Name	Telephone	Email	Web page	Cost (pm)	Backbone
East					
Foobar Internet	(0116) 233 0033	sales@foobar.co.uk	www.foobar.co.uk	£10	Netkonect
Ke-Connect Internet Services	(01449) 770 488	info@keme.net	www.keme.co.uk	£10	Wisper
Merlin Internet	(01724) 276 860	info@merlin.net.uk	www.merlin.net.uk	£15	Hypergrid
Net Solutions Europe	(01255) 233 300	ScottC@nse.co.uk	www.nse.co.uk	£15	Technocom
RJT Internet Services	(01493) 857 048	postmaster@rjt.co.uk	www.rjt.co.uk	£7.99	BTnet
Ireland					
Creative Online Media	(01232) 370 124	john@globalgateway.com	www.globalgateway.com	£9.95	PSInet
Gateweb	(01232) 606 840	gateweb@gateweb.co.uk	www.gateweb.co.uk	£10	BTnet
Genesis Project	(01232) 560 552	sales@gpl.net	www.gpl.net	£10	VBCnet
Ireland On-Line	(00353) 1 855 1739	sales@iol.ie	www.iol.ie	IR£10	Pipex
The Internet Business	(01232) 424 190	info@tibus.net	www.tibus.net	£10	BTnet
Unite Solutions	(01232) 668 406	solutions@unite.co.uk	www.unite.co.uk	£12.50	BTnet
London and South East					
Adept	(01843) 850 444	sales@adept.co.uk	www.adept.co.uk	£10	Netkonect
Amity Internet	(0500) 200 171	info@amity.co.uk	www.amity.co.uk	£9.90	BTnet
BOCC Internet Services	(01865) 201 311	info@bocc.co.uk	www.bocc.co.uk	£10	Pipex
Bogomip	(0800) 137 536	info@mail.bogo.co.uk	www.bogo.co.uk	£12	BTnet
Boots Internet	(01462) 743 112	support@boots.com	www.boots.com	£12.75	VBCnet
CableNet	(01424) 830 700	info@cablenet.net.	www.cablenet.net/cablenet	from £2.95	VBCnet
CentreNET	(0800) 243 336	centrenet-info@innicta.co.uk	www.innicta.co.uk/centrenet	£12.95	BTnet
Dolphin Internet	(0181) 932 5000	info@dolphinet.co.uk	www.dolphinet.co.uk	£12	BTnet
Exconet	(01268) 453 080	sales@exconet.co.uk	www.exconet.co.uk	£10	Nildram
ExNet Systems	(0181) 296 5577	info@exnet.com	www.exnet.com	£12	VBCnet
FastNet International	(01273) 677 633	info@fastnet.co.uk	www.fastnet.co.uk	£30 pq	VBCnet
FlexNet	(01618) 711 550	info@flexnet.net	www.flexnet.co.uk	£10	Netcom
I-Way Brentford	(0181) 758 0058	sales@brentford.i-way.net.uk	www.i-way.co.uk	£10	VBCnet/Pipex
I-Way Oxford	(01865) 206 788	sales@oxford.i-way.net.uk	www.i-way.co.uk/oxford	£30 pq	VBCnet/Pipex
I-Way Reading	(01118) 918 0058	sales@i-way.net.uk	www.i-way.net.uk	£10	VBCnet/Pipex
I-Way Soho	(0171) 734 5734	sales@soho.i-way.net.uk	www.i-way.co.uk	ISDN/LLO	VBCnet/Pipex
KENTnet Internet Services	(01622) 688 748	sales@kentnet.co.uk	www.kentnet.co.uk	£10.50	BTnet
London Web Communications	(0181) 349 4500	nicky@londonweb.net	www.londonweb.net	£12.50	Netkonect
Maidenet	(01628) 825 757	enquires@maidenet.co.uk	www.maidenet.co.uk	£15.00	BTnet
Mitoo	(0171) 209 1515	sales@mitoo.co.uk	www.mitoo.co.uk/	ISDN/LLO	BTnet
Moose	(01923) 238 248	info@moose.co.uk	www.moose.co.uk	£10	BTnet
NetForce Group	(01245) 257 788	sales@netforce.net	www.netforce.net	£15	Pipex
Paradise Internet Network	(01256) 414 863	sales@pins.co.uk	www.pins.co.uk/	£8	INS
Pavilion Internet	(01273) 607 072	info@pavilion.co.uk	www.pavilion.co.uk	£12.55	BTnet/Netkonect
@pobox.co.uk	(0999) 168 160	info@pobox.co.uk	www.pobox.co.uk	£10	INS
Pro-Net Internet Services	(0181) 200 3565	sales@pro-net.co.uk	www.pro-net.co.uk	£99 pa	Cable Internet/ISPC
Surrey Internet	(01483) 860 606	office@surrey-net.co.uk	www.surrey-net.co.uk	£12.50	Surrey Internet
SWS Internet	(01483) 851 049	swsnet@k1245.demon.co.uk	none	£20	Demon
Thames Global Internet	(01344) 641 627	info@tgis.co.uk	www.tgis.co.uk	£8.50	Cable Internet/ISPC
The Web Factory (London)	(0171) 637 0310	sales@weblondon.co.uk	www.weblondon.co.uk	from £12.50	The Web Factory
Vodanet	(01708) 863 043	ops.manager@dialin.net	www.vodanet.net	£12.99	Aspen
VossNet	(01753) 737 800	info@vossnet.co.uk	www.vossnet.co.uk	£10	Cable Internet/ISPC
Wisper	(0171) 581 3222	sales@wisper.net	www.wisper.net	LLO	Wisper
Midlands					
Brunel Internet	(01922) 598 90	sales@brunel.co.uk	www.brunel.co.uk	£12.50	BTnet
Darian Technologies	(0121) 693 9955	darian@custard.co.uk	www.custard.co.uk	£50	Cable Internet/ISPC
Discovery	(01203) 305 600	invent@discover.co.uk	www.discover.co.uk	£10	Technocom
Fenetre	(01538) 398 798	sales@fenetre.co.uk	www.fenetre.co.uk	£8	BTnet
GMTnet	(01509) 269 999	sales@gmtnet.co.uk	www.gmtnet.co.uk	£10	BTnet
Griffin Internet	(01332) 600 160	info@griffin.co.uk	www.griffin.co.uk	£12.50	Xara Networks
Internet Access	(01536) 414 424	mailus@intac.co.uk	www.intac.co.uk	£120 pa	BTnet
InterNet UK	(01827) 713 679	sales@zipmail.co.uk	www.zipmail.co.uk	£10	Wisper
MBC Internet Services	(01902) 651 111	info@mbcis.co.uk	www.mbcis.co.uk	£12	VBCnet
Northants Computer Centre	(01604) 22539	tony@nccnet.co.uk	www.nccnet.co.uk	£10	Cable Internet/ISPC
Oxford Community Internet	(01865) 856 800	info@community.co.uk	www.community.co.uk	£37.50 pq	Onyx
Pipemedia	(01455) 292 900	sales@pipemedia.net	www.pipemedia.net	£10	VBCnet
Power Internet	(01908) 503 126	info@powernet.co.uk	www.powernet.co.uk	£12	BTnet
Skynet Internet Services	(01604) 452 245	sales@skynet.co.uk	www.skynet.co.uk	£10	Cable Internet/ISPC
Stayfree Internet	(0116) 291 0909	sales@stayfree.co.uk	www.stayfree.co.uk	£5	Wisper

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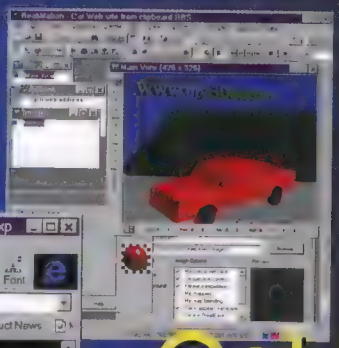

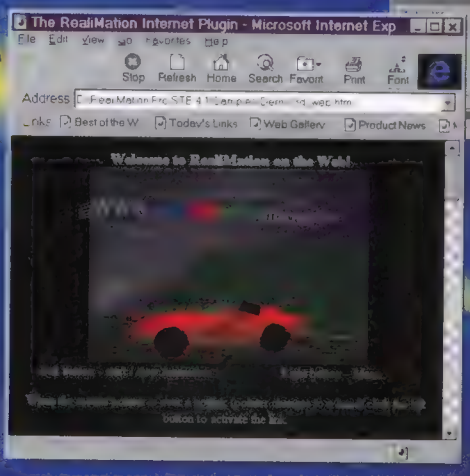

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which provider?

The most comprehensive listing of UK access providers available

Name	Telephone	Email	Web page	Cost (pm)	Backbone
Midlands (continued)					
The Internet in Nottingham	(0115) 956 2222	info@innotts.co.uk	www.innotts.co.uk	£14.69	Aladdin
The Web Factory (Birmingham)	(0121) 236 1086	sales@webbirmingham.co.uk	www.webbirmingham.co.uk	from £12.50	The Web Factory
The Web Factory (Derby)	(01332) 733 233	sales@webderby.co.uk	www.webderby.co.uk	from £12.50	The Web Factory
The Web Factory (Leicester)	(0116) 223 0070	nick@webleicester.co.uk	www.webleicester.co.uk	from £12.50	The Web Factory
Wave Rider Internet	(01564) 795 888	info@waverider.net.uk	www.waverider.net.uk	£12	VBCnet
Webtronix	(0115) 956 8823	sales@webtronix.co.uk	www.webtronix.co.uk	£12.50	Aladdin
WildNET	(01604) 365 600	stuartj@wildnet.co.uk	www.wildnet.co.uk	£10	Cable Internet/ISPC
Woden Network Systems	(0121) 530 4900	derek@woden.com	www.woden.com	£10	VBCnet
North East					
FirstNet Services	(0113) 294 4224	sales@firstnet.co.uk	www.firstnet.co.uk	£12.50	Energis
Legend Internet	(01274) 743 500	sales@legend.co.uk	www.legend.co.uk	£12.50	Sprint
North West					
Cybase	(0151) 227 4244	sales@mail.cybase.co.uk	www.cybase.co.uk	£10	Cable Internet/ISPC
Freeway Internet	(01204) 431 313	sales@freeway.co.uk	www.freeway.co.uk	£139.95 pa	VBCnet
Internet Central	(01270) 611 000	sales@netcentral.co.uk	www.netcentral.co.uk	£10	Cable Internet/ISPC
Kaleida	(0161) 291 1525	dale@kaleidanet.com.	www.kaleidanet.com	£10	Wisper
Kendal Computer Centre	(01539) 722 559	sales@kencomp.com	www.kencomp.com	£12.50	Aspen
Lakesnet	(01539) 731 000	info@lakesnet.co.uk	www.lakesnet.co.uk	£15	Planet Online
Manx Computer Bureau	(01624) 623 841	postmaster@mcb.net	www.mcb.net	£8	BTnet
North-West Net	(0161) 950 7777	sales@nwnet.co.uk	www.nwnet.co.uk	£8.51	Cable Internet/ISPC
RapidNet	(0151) 722 0304	sales@rapid.net.uk	www.rapid.net.uk	£12*	Cable Internet
Talk 101	(01925) 245 145	sales@mail.talk-101.com	www.talk-101.com	£10	Wisper
The Internet Shop Ramada	(01253) 293 136	black-admin@blackpool.net	www.blackpool.net	£12.99	Aspen
UK Internet Provider	(01772) 252 525	internet@provider.co.uk	www.provider.co.uk	£12	Cable Internet/ISPC
Zen Internet	(01706) 713 714	sales@zen.co.uk	www.zen.co.uk	£10	BTnet
Scotland					
Ednet	(0131) 466 7003	info@ednet.co.uk	www.ednet.co.uk	£10	BTnet
Foremost Training	(0141) 566 6377	sales@scotnet.co.uk	www.scotnet.co.uk	£10	Wisper
The Internet Shop	(01355) 276 600	enquiries@inter-s.co.uk	www.inter-s.co.uk	£7.95	BTnet
The Web Factory (Scotland)	(0141) 418 0880	sales@webscotland.co.uk	www.webscotland.co.uk	from £12.50	The Web Factory
TweedNet	(01573) 430 216	mike@scotborders.co.uk	www.calligrafix.co.uk	£15	Scottish Telecom
South Central					
Andover On-line	(01264) 334 822	info@andover.co.uk	www.andover.co.uk	£12	Xara
Athene Internet	(01329) 828 000	jdyer@athene.co.uk	www.athene.co.uk	£10	Wisper
Bournemouth Internet	(01202) 292 900	office@bournemouth-net.co.uk	www.bournemouth-net.co.uk	£15	Aladdin
CintraNet	(01703) 571 000	accounts@cintranet.co.uk	www.cintranet.co.uk	£11.75*	Cable Internet/ISPC
Dart Net	(01794) 511 505	sales@dartnet.co.uk	www.dartnet.co.uk	£8.50	BTnet
Interalpha	(01703) 363 200	enquiry@interalpha.co.uk	www.interalpha.net	£15	Aladdin
LDS Technology	(01202) 659 991	sales@lds.co.uk	www.lds.co.uk	£14.99	BTnet
NewNet	(01705) 647 400	sales@newnet.co.uk	www.newnet.co.uk	£5.88	BTnet
South West					
Abling.co.uk	(01823) 353 771	info@abling.co.uk	www.abling.co.uk	£9.95	INS
Aspen Internet	(01672) 511 388	admin@aspen-internet.net	www.aspen-internet.uk	£10	VBCnet/Aladdin
City Netgates	(0117) 907 4000	info@netgates.co.uk	www.netgates.co.uk	from £9.79	Wisper
Dataday Computers	(01793) 512 074	sw-1@cccp.net	www.dataday.co.uk	£12	Aspen
Dorset Internet	(01202) 659 991	sales@lds.co.uk	www.lds.co.uk	£14.99	Pipex/BTnet
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Gifford Internet Services	(0117) 939 7722	admin@gifford.co.uk	www.gifford.co.uk	£8.50	VBCnet
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Round One Media	(01237) 425 100	info@rom.net	www.rom.net	£8.33	Telehouse
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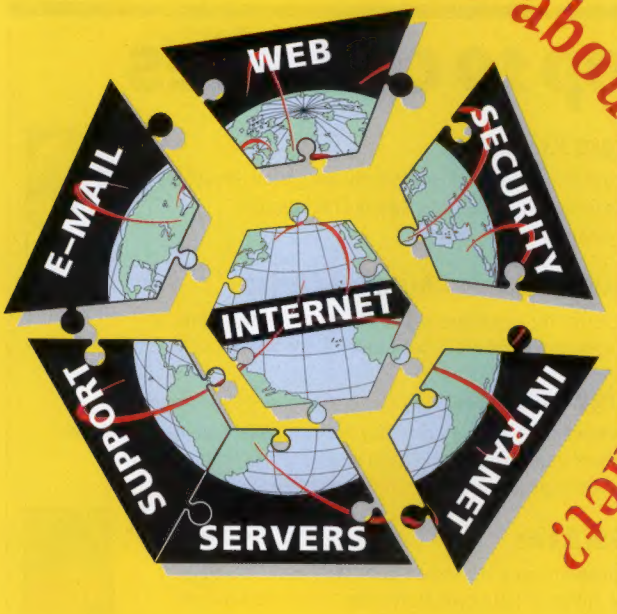
Still PUZZLED about the Internet?



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A round-up of this month's idiotic, esoteric and entertaining stories from the Web...

Gena Lee Nolin: Babe

Baywatch star, Gena Lee Nolin is planning to give birth online, according to *The Mirror*. It's hoped that RealAudio will pump out live sounds of the birth. Nolin, who is expecting her first baby, optimistically said "I hope I don't scream out or something." Her devoted fans can tune in, turn on and hear the baby drop out in June. Luckily her husband, Greg Fahlman talked her out of beaming out live pictures. You'll find one of hundreds of sites devoted to Ms Nolin at: **http://chris.simplenet.com/genaleenolin.html**

Woolpack net sale

Happy Harley-owning actor Richard Thorp, alias Alan Turner, landlord of Emmerdale's Woolpack pub is hoping to sell his 17th century house on the Web.

Thorp believes traditional selling methods are not reaching the prospective buyer who could live abroad. "It's the easiest and cheapest way to tell people all over the world about the historic property I have to offer, as foreigners sometimes seem more interested in our heritage than we are," he says. **www.netproperty.com**

Email therapy

A group of Samaritan volunteers in the Devon and Exeter region are to take Internet training so they can respond to help calls received via email. The move comes as a response to the increasing number of young males who are committing suicide. "One of the reasons we are interested in email is that young men tend to be more happy to talk via a computer," said a spokesperson for the group.

Smile you're on candid camera

The latest case of the Web voyeur has focused, not on the house guests of Michael Portillo MP, but on the everyday business of Britain's oldest recorded town, Colchester. Images taken from cameras placed around the city are now relaying the latest sightings of Essex Man and Woman in their natural environment. All this so that election-following Net users can watch the day-to-day routine in one of Britain's key marginals.

Thank God

The Internet is the answer to a group of Benedictine monks prayers.The brothers desperately needed a new source of income and they struck gold when a Net-literate Friar set up a Web page advertising tranquil holiday breaks at the monastery. The company's name? Monksoft.

Surf and I'll sue

Forget Cyberporn. Cyber discrimination is the new hot topic for US-based lawyers. A recent spate of lawsuits highlights the use of email on internal corporate networks as evidence of racial abuse or sexual harassment. Employees at several major US firms including Citibank and Morgan Stanley have recently sued for damages, alleging racist abuse had been delivered to their desktop.

Top 10 cult sites

1. Hare Krishna

His Divine Grace

Plenty of letters from followers dedicating their lives to his Divine Grace Bhaktivedanta Swami Prabhupada. **www.islandnet.com/krsna**

2. International Church of Christ

This church for all nations started in 1979. It now claims to have 120,000 members in 90 countries. **www.intlcc.com**

3. Light of Truth

Impressive site which is written by the evangelist Christian Jim Moran. It's rather worrying though, that a number of his followers have committed suicide. **www.mcs.net/jimmoran/**

4. Sai Baba

Sai Baba and his divine afro.

Big on philosophy, the Indian Guru tells us to "Love all, Serve all" and "Help ever, Hurt never" **www.eaisai.com**

5. Jehovah's Witness's

Michael Jackson's preferred cult. Sites by disgruntled former members easily out number those in praise of it. **www.serve.com/larryi/jws.htm**

6. Lifespring

Claims to help young people access parts of their bodies that they don't know exist! **www.mindspring.com/gregk/index.htm**

7. Soka Gakkai

Part English and part Japanese, this site includes loads of pictures of happy people whose lives have been transformed by the cult. **www.sgi-usa.org/**

8. Unification Church

The home page of the well known cult. The Rev. Moon offers you his special blessing. **www.unification.org/**

9. The Mormons

Big on text. Work your way through this site and you'll be able to baffle your friends with your Mormon trivia. **www.irr.org/mit/**

10. Church of Scientology

The official homepage of the international cult offers you a free personality test. **www.scientology.org/**

Quotes of the Month

Soundbite culture from a month in the life of the Net.

"We keyed in the Prince's name and the only thing that came up was a pub in Seattle. I think Charles was a little distressed."
BBC newsreader, Martyn Lewis, describing how he showed the Prince of Wales around an Internet facility for youngsters. Unsuccessfully it seems.

"I'm less opposed to the Internet than I was, because it's really effective at soaking up the sads.

At least while they're in cyberspace, which seems to offer a substitute for real sex and real relationships, they can't be on the phone upsetting women."
Buck-toothed, cheesegrater-accented vehement Net opponent Janet Street Porter in The Mail on Sunday You Magazine.

"I'm going to put this place through the most gut-wrenching change it's ever had."
Gil Amelio on making a few changes chez Apple, and then sacking 4,000 staff. Business Week.

"Every time a Russian official logs onto the Internet, there is a risk that an apparently innocent file will have an embedded virus"
James Adams, in The Sunday Times, so what does being Russian have to do with it?

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